1-1-1985

An examination of the use of conscious modeling in teacher education methodology courses : a case study approach.

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AN EXAMINATION OF THE USE OF CONSCIOUS MODELING IN TEACHER EDUCATION METHODOLOGY COURSES: A CASE STUDY APPROACH

A Dissertation Presented

By

DEBORAH ROOSE

Submitted to the Graduate School of the
University of Massachusetts in partial fulfillment
of the requirements for the degree of

DOCTOR OF EDUCATION

September 1985

Education

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ACKNOWLEDGEMENTS

I am indebted to some special people for all their help and encouragement while I worked on this project:

Dori Shallcross, for her solid support, guidance and encouragement, starting on the day when she so cheerfully agreed to become the chairperson of my committee mid-way through the process.

Jack Wideman, kindred spirit, who helped me in exploring and understanding "modeling" in new, yet familiar ways.

Joyce Berkman, for her thought-provoking questions and comments - my study is richer due to her input.

All of the student participants, for their interest in the study and acceptance of my continual tape recording. My special thanks to the four students from the methodology classes and the three student teachers for giving their time for the interviews and offering their thoughtful, honest and insightful perceptions of what they were seeing and experiencing.

The two faculty participants, for whom I have only respect and gratitude for their willingness to open their classes and professional lives to my questions and observations. Their self-reflection, risk-taking and honesty gave this study its framework and set the tone for a professional and thorough investigation. These faculty members are exemplary members of their profession. They also were, as members of my initial dissertation committee and members of my department,

major influences in my exploration and growth as a teacher educator. Their wisdom and need for "congruence" shall influence whatever educational endeavors I undertake.

The Noyes Foundation, whose monies partially funded this project.

Masha K. Rudman, for the use of her printer and for the countless other "gifts" she gave me, professionally and personally.

Dick Konicek, who helped me through the mazes of the doctoral process as advisor and friend.

My two children, Dain and Beirne, for forcing me to take breaks from my work and just relax and play. They helped keep me sane.

And to David Snyder - model father, supporter, editor and friend - whose input, ponderings, clarity and wisdom influenced all that I wrote.

ABSTRACT

AN EXAMINATION OF THE USE OF CONSCIOUS MODELING IN TEACHER EDUCATION METHODOLOGY COURSES: A CASE STUDY APPROACH

(September 1985)

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Aided by a grant from the Jessie Smith Noyes Foundation.

Over the years leading teacher educators have called for members of their profession to "practice what they preach".

The concept of modeling, the "process of observational learning in which behaviors of an individual (the model) acts as a stimulus for similar thoughts, attitudes or behaviors on the part of another individual who observes the model's performance" (Perry & Furukawa, 1980, p.131), has been researched in clinical studies in psychology for decades. Except for being used in micro-teaching situations, research on or the use of modeling as a teaching strategy for teacher educators have not been documented in the professional literature.

The present investigation grew out of a perceived need for information about the use of conscious modeling in teacher education. A review of the related research and literature provides foundation for this study. A set of characteristics gleaned from the literature as central to the concept of modeling for use in

teacher education are presented.

Using a multifaceted qualitative research design, this study examines the use of conscious modeling by two faculty members in their preservice education methodology courses. Through in-depth interviews the faculty members' views about modeling in general were gathered, and the specific beliefs, attitudes and practices which they consciously tried to model in their courses were recorded. Researcher observations and the perceptions of students from two semesters were documented.

The inquiry was guided by six research questions which focused on gathering data which would help describe the concept of conscious modeling in teacher education, with its limitations and benefits.

Conclusions drawn from the data indicate that the use of conscious modeling is an effective teaching strategy in preservice methodology courses. The concept of faculty members being congruent in beliefs and practices is integral to the success of conscious modeling and three factors, articulation, reflections and having a "time to try", add to the effectiveness of conscious modeling.

This study concludes with recommendations for further research on conscious modeling in teacher education methodology courses and in other areas of teacher education.

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CHAPTER I

INTRODUCTION AND STATEMENT OF THE PROBLEM

Background

Within the last two years many diverse groups of people in the United States have called for changes in education. Strong statements were issued from the Presidential Commission on Education (A Nation at Risk, 1983) calling for an overhaul of our educational system. The educational community also has expressed concern about different aspects of the educational process, coming out with criticisms and studied suggestions in articles and books, such as the Bicentennial Report in 1976 (Howsam et al.), and Goodlad's A Place Called School (1983), and articles by Denemark (1982), and Wisniewski (1982).

Some proposed changes center on the public schools and others on merit pay, certification standards and the process of teacher education. No matter what portion of education is reviewed, the process of teacher education eventually comes into light. Most often teacher education is viewed critically in its relation to the rest of education, and many times is "blamed" for problems in other education areas.

> In some respects the process of teacher education plays a villain's role. With the public schools, departments, schools and colleges of education are seen by many not only as major

> deterrents to progress but also as major causes of difficulty in education. This culpability straddles the full range of educational problems, from the fiscal management of schools through declining test scores to drug use among 5th graders. If teacher education is not considered to be totally responsible for all these problems, it most certainly is thought of as a major contributing cause. (Howey & Gardner, 1983)

Teacher educators themselves recognize the great need for reform within their profession. (Howsam et al., 1976) Even without specific demands for change from society in general, teacher education, as with any profession, should be constantly reviewing its goals, practices and results to stay abreast with the changing needs of undergraduates, teachers, schools and society.

Within the teacher education profession, the undergraduate preservice component receives criticism from the other components. "[Inservice] programs must in addition remedy the severe insufficiency of preservice education" Cogan reports in the National Society for the Study of Education Yearbook. (Ryan, 1975) This criticism seems to be well founded. Howey and Gardner, in their recent book, The Education of Teachers: A Look Ahead (1983) summarize the findings of the The Preservice Teacher Education Study (Joyce, Yarger and Howey, 1977). The study found that

1. Professional programs of teacher education are characterized by their brevity....
2. Professional programs appear quite homogeneous....
3. Research and development capabilities and resources are sparse and those which do exist appear underutilized with respect to the study of teacher preparation itself.

4. Professional programs are almost always labor intensive, technologically impoverished endeavors, even simple procedures such as microteaching and forms of simulation appear to have declined in recent years.
5. Recent efforts toward more comprehensive program development such as forms of competency-based teacher education have achieved but limited success. This lack of programmatic change can be attributed to a variety of factors, including those which are organizational, political, and economic in nature. Not the least of these problems, however, is a fundamental lack of clarity about relevant and realistic teaching roles and equal uncertainty of just what, at various stages of teacher development, constitutes competence.
6. There is little concept of collaboration...between different professional constituencies, institutions of higher education, and local education agencies in initial teacher preparation.... (p. 17)

The different components of preservice education need rigorous scrutiny and analysis. Without analyzing the present situation thoroughly, educators, in wanting to respond to the pressure for change, may throw out the positive successful parts of a preservice program, as they try to cull the negative parts. Research may help illuminate what are the successful parts of the preservice program. As of now, more research needs to be done in the area of teacher education.

In 1975 an overview of research done on teacher education showed that "In spite of recent improvements in research in the field, the amount of dependable information available compared to the amount needed to formulate more effective policies and practices of teacher education is minuscule." (Turner, 1975, p. 107).

More recent literature still points out the lack of careful research on the preservice component of teacher education. After

summarizing two different studies of research done by graduate schools of education Denemark (1983) writes that the results

> leave us with the discouraging conclusion that only about one-fourth of the Education units (schools, departments, and colleges of education) are engaged in any significant knowledge production or utilization activities, while some of the most prestigious among those that are engaged in such activities focus on matters peripheral to the task of preparing teachers or to more effective instruction in schools. (page 37)

The third finding of The Preservice Teacher Education Study (see above), also specifically points to the lack of research done by the preservice programs themselves.

Preservice Methodology Courses

One specific area in which teacher educators have voiced concerns and which needs considerable research centers on undergraduate preservice methodology courses and how they are taught. The courses, as a whole, have a reputation of being irrelevant, not challenging, and boring. Lortie found in his sociological studies of teachers that "Teachers are inclined to talk about their training as easy ("mickey mouse"); I have yet to hear a teacher complain that education courses were too difficult or demanded too much effort." (1975, p.160) Bunker (1970) found in his study of preservice teachers that "despite dissimilar preparations for teaching, [the] student teachers [held] professional education courses in

an unfavorable light." (p. 149) Certainly, if courses are labeled as "mickey mouse" by students and teachers there need to be some critical looks given to methods courses. Research has been done on content, the background of the students, the length of the programs, and the types of courses required, but very little research has been done on the teacher educators themselves and the processes used by them when teaching in the classroom.

> We know, for example, much more about desirable content for elementary teacher education programs than we do about effective processes for ensuring that this content is acquired, used, adapted and expanded by teacher education students as they go about their preservice education and move into regular teaching positions.(Vaughan, 1984, p.3)

When researchers look at elementary classrooms to see what contributes to learning they focus on many factors, but the classroom teacher is always a major focus. That is not the case when looking at preservice education classrooms. There has not been the same in-depth research done on teacher educators as there has been on classroom teachers (Lortie, 1975) or preservice students (Joyce et al. 1977).

> Considerable critical attention is currently being focused upon teacher education programs...In most instances, the brunt of the responsibility for the apparent failure is levelled at teacher educators. Little is known, however, of the background, values, goals, responsibilities and instructional strategies of the teacher educator. (Carter et al., 1981, p. 1)

One of the reasons that meaningful research is not available may be

due to the predominant use of quantitative research methodology in the past. Because teaching centers on individuals with their own unique teaching beliefs and styles, qualitative research describing what actually happens in methods classes is needed to discover the variables to use in larger quantitative studies.

Research on Modeling

Although teacher education itself has seen a dearth of systematic research, information about topics relevant to teacher education can be obtained from research done in other fields. In clinical psychology much research has been done in an area which is pertinent to teacher educators. Work by Albert Bandura and others gives evidence that people acquire and extinguish complex emotional and social behaviors by observing a model performing that same behavior first. (Bandura, 1969, 1977)

The term modeling refers to

> the process of observational learning in which the behavior of an individual or a group - the model - acts as a stimulus for similar thoughts, attitudes or behaviors on the part of another individual who observes the model's performance. (Perry & Furukawa, 1980, p.131)

In this dissertation the model will refer to people, including those observed on instructional videotape. Television and written forms of

modeling are not included because this study is designed to focus on teacher educators in the classroom as models.

All teachers constantly play the role of model, with classes of 20 -30 students observing their every behavior. By the time students have graduated from high school they have had 13,000 hours in direct contact with teachers, observing constantly. (Lortie, 1975)

Because they are being observed continuously, the teachers are always modeling, whether consciously or not. Preschool, elementary, secondary and college teachers all model behaviors and attitudes. Faculty in teacher education programs model under special circumstances. They model behaviors and attitudes to undergraduates who, in turn, will be models for children.

Some teacher educators feel that teachers are more affected by the teaching models they have observed than by their professional training. "Teachers teach the way they have been taught - not the way they have been taught to teach." (Combs et al., 1974, p. 147.)

Over the years leaders in teacher education have called for the use of conscious modeling in educating preservice undergraduates. They know that modeling should be used as an effective, positive tool in educating teachers. The undergraduates are already learning about teaching by observing the faculty, although that may not be the intention of the faculty. Modeling should be used for a conscious purpose or end. Beyond professing philosophies, ideas and techniques, the college educators

should actually teach in a way that exemplifies those ideas, techniques and philosophies.

The Bicentennial Commission pointed out the disturbing discrepancy between what faculty professed as sound educational ideas and methods for their preservice teachers to obtain and the actual way in which the faculty taught their undergraduate courses.

> Teacher educators should practice what they preach - exemplify what they explicate - if they are to be effective in working with prospective and experienced teachers. Teacher educators who exhort their students to individualize instruction, cultivate a taste for research and scholarship, and develop team-teaching skills - while employing none of these approaches themselves - are unlikely ever to persuade students to adopt new teaching styles or new ways of thinking about education. (Howsam et al., 1976, page 107)

Besides teacher educators calling for the use of modeling by education faculty, a few teacher preparation programs have also argued the need for incorporation of modeling by their faculties. (Linville & Rees, 1977, Missouri University, College of Education, 1978) But little documentation on how modeling was to be used or had been used in these programs was reported.

In addition to leaders in teacher education and some teacher education programs calling for the use of modeling in education programs, the preservice teachers themselves have acknowledged the need for modeling, too. In 1974 Shrigley reported that 81% of the respondents to his questionnaire about instructors' credibility as a valid framework for

attitudes about science in preservice teachers, felt "that a science educator should model in the classroom modes of teaching similar to those he expects students to use later as teachers." (p. 10)

If modeling has been shown to be effective in learning and if teacher educators call for the use of modeling, why is the documented use of modeling in preservice teacher education not being reported in the literature?

In short term psychological studies and studies done on micro-teaching, specific conscious uses of modeling have been described and documented. Yet, the phenomenon of general modeling, outside unnatural laboratory conditions, has not been focused on and that is the type of modeling which occurs in every classroom every day.

Is it possible to teach, as Howsam and others have urged, by "exemplifying what you explicate", practicing what you preach? Before modeling can be systematically incorporated into teacher education by inclusion in methods courses or other components of a preservice program, there is a need to describe this phenomenon as it occurs over a long period of time, in a natural, as opposed to clinical, setting. Research needs to focus on how and when conscious modeling is used in a natural setting, to learn more about its characteristics, benefits, and limitations.

Statement of Purpose

It was the intent of this study to document through a qualitative research approach the occurence and uses of modeling in preservice methods classrooms where the faculty consciously attempt to use modeling as part of their teaching strategy (method).

The courses under study were two of the methodology courses in the preservice component of the Elementary Education Department in the College of Education at State University in a state in the eastern part of the United States. This department also has inservice and staff development components, leading to master and doctorate degrees. Preservice methods courses contain college students, either pre- or post-baccalaureate level, who are preparing to become certified elementary school teachers. The faculty members, both tenured full professors, are regular contributors to the preservice program. They both make conscious attempts, based on their theories of teaching and learning, to teach undergraduates in the ways they want those future teachers to teach children. "Conscious" in this study means "done or acting with critical awareness" and "unconscious" means "not deliberately planned or carried out." (Webster's Seventh New Collegiate Dictionary, 1963) The faculty in this study try to be very aware of their attempts to model attitudes and actions in their courses which they want the preservice teachers to have and use in their teaching.

By interviewing the faculty and students in the courses and by being a participant observer in the courses throughout the semester the researcher systematically gathered information pertinent to the understanding of modeling in methodology courses.

This case study is not intended to be a testimonial for or a critique against modeling; nor is it a blueprint for the implementation of modeling. Rather, the researcher attempted to look at one setting, describe some of the events which occurred there, and then tried to analyze those events in terms of what was known about modeling and what the faculty members were trying to do.

The following questions were considered in this study:

1. What were the faculty members' stated reasons for consciously attempting to use modeling in their courses?
2. What beliefs, practices and attitudes were consciously modeled by the faculty? Which of these beliefs, practices and attitudes were perceived by the students?
3. What different types of modeling were used by the faculty members and perceived by students? How was modeling used by the faculty members and how was it perceived by students throughout the semester?
4. What beliefs, practices and attitudes were unconsciously modeled by the faculty? Which of these beliefs, practices and attitudes were perceived by the students?

5. What were the personal factors which most affected the use of modeling in the courses?
6. Which institutional factors most affected the conscious use of modeling in the courses?

Delimitations of the Study

This researcher recognizes that a study of two faculty members does not satisfy the need to examine modeling in teacher education in general. But an in-depth study of two methodology courses such as this one can lay the groundwork for further study of this sort or for research looking at causes, measurement or evaluation.

This study is not evaluative research. The researcher consciously did not include any questions in the interviews or statements in the analysis of the data which would lead the students involved in the study or the reader to make judgmental comparisons between the two faculty members. This is not an evaluation study of teaching styles or a comparison of how well the faculty used modeling. Studying modeling in teacher education cannot be done without looking at teacher educators, but collection and analysis of data should be done as objectively as possible.

The faculty members worked with graduate students, who assisted in the teaching of the methodology courses. Because of the necessary

inclusion of the graduate students in the study certain assumptions need to be stated.

1. Each faculty member and assisting graduate student jointly designed and planned the methodology course.
2. The study of modeling and its uses in the methodology course was of prime concern during planning sessions.
3. The methodology classes were taught following the strategies developed in the planning sessions.

Thus, the perceptions of the undergraduates and the researcher of the contributions of the graduate assistants were included in the overall data collected about modeling.

The Elementary Education program contains five different methods courses plus two practicum experiences in the schools with a supporting seminar during student teaching. This study only looked at a part of that whole preservice program, because inclusion of the whole program would have diffused the concentrated energy needed to research the two specific courses.

Significance of the Study

This study provides a comprehensive description of the elements involved in using modeling in a preservice education classroom, and

serves as a springboard for further study of the theory and practical application of modeling. The study makes available to other teacher educators and researchers an in-depth description of the experiences and perceptions of faculty attempting to use modeling in their methods courses. This research is also beneficial to those faculty involved in the study and other members of the Elementary Education Department staff who are interested in the uses of modeling. The fact that this study exists supports attention to modeling as a valid strategy for teacher educators. The study may stimulate other educators, not only teacher educators, to examine how they teach and the relationship between being models and what they believe about teaching and learning. The study will be helpful to preservice and inservice teacher education programs interested in or actively engaged in building or redesigning their programs around modeling principles. The conclusions may provide ideas for ways to support faculty development in schools, colleges, and departments of education. This study may generate questions to be used in a broader quantitative study looking at the effects of modeling as a teaching tool.

Design of the Study

The decision to construct a case study using in-depth and informal interviewing and participant observation was made after considering the

nature and circumstances of the topic being investigated.

Since the purpose of this study was to describe and analyze the phenomenon of conscious modeling in two methodology courses, a research design which would help uncover what was occuring in these specific settings lent itself to this type of study.

Qualitative methodology was selected because it produces descriptive data, through peoples' spoken or written words and through detailed observations on the part of the researcher. As Lofland (1971) states, "qualitative analysis is addressed to the task of delineating forms, kinds and types of social phenomena; of documenting in loving detail the things that exist." (p. 13) The methodology was appropriate for the types of data needing to be collected and analyzed for a comprehensive documentation of modeling.

The subjects all were faculty or students in the preservice component of the Elementary Education Department in the College of Education at State University. The two faculty in the study were professors who felt they used conscious modeling in their preservice methodology courses. The reseacher chose four undergraduates who were participating in the course work component of the Elementary Education program to interview in-depth . Three other students, in the student teaching phase of the program, were also interviewed to gather perceptions from students who were working in elementary classrooms, but who had taken the methodology courses the previous semester.

The in-depth interviews consisted of open-ended questions developed from the research questions of the study. They were used as a guide to help focus the interviewees on different topics, but not to limit their answers or additional thoughts in any way.

As another means of collecting data, the researcher became a participant observer in the methodology classes, watching the faculty and students as they interacted and worked together during the semester. The researcher audio-taped all the class discussions, informal talk during activities and during breaks and direct questions posed to the faculty and students by the researcher. The researcher participated in a limited way in the classes, filling the role of participant-observer as Engel (1977) describes it.

> The participant-observer is an external agent, but shares, to a limited degree, the experience of those on the inside: he spends considerable time making direct observations, collecting various kinds of documentation, interviewing, etc; he becomes 'immersed' in the setting (p.8)

Data analysis was on-going and influenced the next steps of the study. The researcher used data from the interviews to form and refine categories for observation, and observational information influenced the questions asked during the interviews.

Organization of Remainder of the Dissertation

Chapter II: Review of the Literature.

The review of the professional literature on the concept of modeling is the focus of this chapter. The areas covered are the research done through clinical studies, practical applications of modeling outside of teacher education, and research on modeling in teacher education. The final section of this chapter presents a list of those characteristics, critical to successful modeling, which have been extracted from the literature to be used in a study of modeling in teacher education.

Chapter III: Description of the Study.

Chapter III encompasses a description of the study, explaining the methodology used in the study. Subsections describe the case study approach, faculty participants, the methodology courses and student participants. Finally, the instrumentation used in the study is presented and the methods by which the data were collected and analyzed, are discussed.

Chapter IV: Presentation of the Data.

The presentation and analysis of the data is the focus of this chapter. Both case studies and the general impressions of the undergraduates about modeling are discussed and analysis of the data obtained is included.

Chapter V: Conclusions and Recommendations.

This chapter contains conclusions from the case studies and a summary of the major findings and recommendations raised by the study. Finally, implications for further research are included.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

In order to investigate the conscious use of modeling in teacher education methodology courses, it is necessary to begin such an exploration with an in-depth look at what is known about modeling as a teaching tool, and how it has been used in practical settings.

The first part of this chapter will review the history of the research of modeling in clinical settings and delve into the components which make up modeling and the factors which influence the effectiveness of modeling. The second part will look at different areas of education, excluding teacher education, and other fields where the practical application of modeling has been studied and used. These areas include psychological counseling, management training, physical education, working with special needs students and teaching college students. The third will look specifically at the uses of modeling in teacher education, including micro-teaching and the cooperating teacher-student teacher relationship. A distinction will be made between modeling used in clinical studies and modeling used in a teacher education class. A brief review of some of the literature about the socialization of teachers and mentoring will be included

final part of this chapter a set of elements gleaned from the literature as central to the concept of successful modeling for use in teacher education will be presented.

Clinical Research on Modeling

Although the practice of using others as models for learning has been around as long as there have been people, major research specifically on modeling has been done only in the last 30 years. Albert Bandura and colleagues conducted the most extensive research in the area of modeling in clinical settings. Early research done by Bandura did show evidence that people acquire and extinguish complex emotional and social behaviors, such as aggression, through the use of modeling or imitation. In a variety of experiments, Bandura and his colleagues showed that people learn behaviors through the process of observing. (Bandura and Walters, 1963)

The researchers used two major designs in the experiments. The first involved an observer (learner) seeing a behavior, such as aggression, self-reinforcement or social reinforcement, presented by a model. Then comparisons were made of the observer's subsequent behavior with that of subjects who had no exposure to the model. The second design assessed the frequency with which the subjects displayed a certain behavior and then compared the changes of frequency or amplitude between those subjects exposed to a model with those that

were not.

Bandura and Kupers looked at self-reinforcement patterns and modeling and found

> that children tend to adopt evaluation standards modelled by others. They judge their own performances relative to those standards and reinforce themselves accordingly...when they are exposed to models who set high standards, children reward themselves only when they achieve superior performances, whereas other children exposed to models who regard low achievements as sufficient reinforce themselves for minimal performances. (Bandura & Kupers, 1964)

Marston (1965) found this to be true with adults, also.

Bandura says that much more of our learning goes on while we watch models and are given instructions, than when we try to learn by trial and error. This research led him to develop a theory of social learning, a psychological learning theory. He developed his theory as an alternative to the traditional behavioristic theories of learning and Piaget's developmental approach. Bandura said that the "behavior theories tend to stress learning through one's OWN successes and failures. The Piagetian approach emphasizes gradual development on the basis of one's OWN improvised experiences." (Bandura, 1977, p.91) (emphasis, DR)

Alternately Bandura felt that most learning is perceptive learning, coming from live or symbolic (pictures, words) instruction rather than direct experience. So his theory of learning emphasizes, "the prominent roles played by vicarious, symbolic and self-regulatory processes in psychological functioning." (p. 91) Modeling - written,

verbal and enactive - is central to his theory.

Many other people have done research on modeling. They have looked at its effect on social and personality variables, such as aggressiveness, altruism and the cognitive behaviors of language, information-seeking strategies, conservation, flexibility or rigidity of problem-solving and creativity.

Mary B. Harris, in a set of three field studies, found that people who have just observed an aggressive model tend to be more aggressive themselves than others who have observed a polite model. An example of the type of study she did involved car drivers and bicyclists. When the informed driver ahead of the subject's car politely waited for bicyclists to move aside, the subject tended to be polite while waiting. When the informed driver in the car ahead of the subject's car reacted aggressively to having to wait, the subject tended to react more aggressively, too. (Harris, 1973) These studies correlated with Bandura's findings.

Harris, in two other different studies, demonstrated that observation of a model's altruism can strongly influence the occurrence, amount and direction of altruistic behavior on the part of the observer (learner). The studies also showed that the effects of modeled behavior on sharing appear to be specific (an imitative behavior), but also generalized beyond the specific learning. (Harris, 1970, 1971) Bryan and Walbek (1970) replicated those finding of Harris and of Rosenhan and White (1967) that altruistic models increase

altruistic behavior in children. These studies found that "it does appear that behavioral example is more effective in eliciting generosity than verbal exhortation explicating the virtuousness of such an act." (Bryan & Walbek, p. 346)

Researchers also studied the effects of modeling on cognitive behaviors. Harris and Hassemer (1972) looked at language and observational learning and found that modeling was a significant factor affecting the complexity of children's sentences. Liebert, Obom, Hill & Huff (1969) added support to the hypothesis that children's adoption of language rules may be influenced by a combination of modeling and reward procedures. In another study, all modeling groups displayed strong increases in the use of questions which, without further training, they generalized to a new set of stimulus pictures. (Rosenthal & Zimmerman, 1972a) The same authors then did four experiments to extend the study of social learning influences on abstract reasoning to younger children and to conservation, a cognitive task. They found that children increased correct judgment as they watched a model conserve without being given an explanation and they also went beyond imitation, which the authors felt was indicative of inferential thinking elicited by modeling. (Rosenthal & Zimmerman, 1972b)

Harris and Fisher (1973) studied another cognitive behavior, problem-solving. They focused on flexibility or rigidity in problem-solving, using observational learning, and came to the

conclusion that merely observing a model solve anagram puzzles caused the subjects to solve the anagram puzzles in a more flexible way.

Even with a type of behavior which might seem incompatible with modeling, creative behavior, Harris and Evans found significant correlation between what type of creative behavior subjects displayed and the type of creative behavior they had observed in a model.(1973) In this study the authors used a written model, an answer sheet for solving written problems in creative ways, and suggested that live models showing creative, novel ways of thinking would have an even greater effect.

Components of Modeling

In looking at the effectiveness of modeling in learning, researchers studied the times when modeling did and did not work and analyzed what factors caused modeling to happen or to fail to happen. Using his research on modeling as a base, Bandura broke down learning through observation into four components and considered each component essential for learning to take place. The four components include,

1. attentional processes,
2. retention processes,
3. motor reproduction processes and
4. motivational processes. (Bandura, 1977, p.28)

The first component, attentional processes, determines what is to be observed from all the different sources possible for modeling - what

is extracted from these sources. Will a student watch the teacher using questioning skills, or the child next to her, making a paper airplane? If the student did observe the teacher, would she watch the gestures the teacher uses or the facial expressions? If learners don't focus their attention on the model (teacher), no matter what the model does, that behavior won't be emulated.

Retention processes are the second set of processes involved in learning. People can't be influenced very much if they can't remember what they observed. The retention processes are the ways in which what is observed is represented in memory in symbolic form. Bandura found that

> observers who code modeled activities into either words, concise labels, or vivid imagery learn and retain behavior better than those who simply observe or are mentally preoccupied with other matters while watching. (Bandura, 1977, p.26)

Rehearsal serves as an important aid in these processes. Overt enactment may be impossible, so mental rehearsal is valuable. Jeffery (1976) found the highest level of observational learning is achieved by first organizing and rehearsing the modeled behavior symbolically and then enacting it overtly.

The third component necessary for observational learning consists of motor reproduction processes, converting symbolic representation into appropriate actions. After an observed behavior has been committed to memory, the next step is to physically try the behavior. Some people may be physically unable to perform or experience a

specific behavior.

The final component, motivational processes, determine whether the action will be adopted or not. The observer (learner) makes a decision (conscious or unconscious) whether to continue using the adopted behavior. Sufficient incentives must be there for the learner to adopt a new behavior. If the behavior learned wasn't "worth it", the learner won't continue that behavior. Bandura writes that the observers (learners) are "more likely to adopt modeled behavior if it results in outcomes they value than if it has unrewarding or punishing effects." (1977b, p. 28) The learning must have meaning, have functional value for the learner beyond the immediate situation, or the learner will drop the new behavior. "Worth it" or what someone values can be defined in many different ways, for every individual. In a laboratory setting where the student is taking a passive role, extrinsic rewards seem to play an important role, while in natural settings, intrinsic motivations such as need for competence or attachment seem to be important. (Yando, 1978) In school, "worth it" may mean receiving A's, or recognition or praise. An example of a behavior not being "worth it" would be children learning to share, yet not continuing the behavior at home because their siblings never reciprocated and any sharing they tried ended up as just a loss of toys for them.

As Bandura and others studied these different components, they recognized that different factors affected whether these processes were

occurring. The major influencing factors in whether the processes are present and a behavior is learned or not are the learner and the model.

The Learner as an Influence on Modeling

Each learner has her/his own unique needs and likes. Therefore,

> when exposed to diverse models, observers [learners] rarely pattern their behaviors exclusively after a single source, nor do they adopt all the attributes even of preferred models. Rather, observers combine aspects of various models into new amalgams that differ from their individual sources. (Bandura, Ross & Ross, 1963b)

An example of this would be the way different children in the same family display different combinations of characteristics learned from the same parents, or different students acquire different techniques modeled by the same teacher.

Cognitive development also adds to how a learner views modeled behavior and whether the learner adopts the behavior. Whitehurst et al. (1981) investigated this area, trying to understand why a child would select one or more components of a model's behavior to imitate while ignoring others. They found that a failure to discriminate a model's behavior (in their study, the behavior of informativeness) can lead to selective imitation of other dimensions (in their study, length). The 5 year olds thought that if they said more, they were adopting the model's behavior of informativeness. So, for younger

children, a developmental inability to discriminate a model's behavior can be one reason why they select other behaviors to imitate.

Since different people respond to modeling situations in different ways, the researchers investigated the types of people most influenced by modeling behavior. Those who lacked confidence and self-esteem and were more dependent on others, learned more through modeling than those people who seemed to be more self-confident. But studies also suggested that "when modeling is explicitly used to develop competencies, the more talented and venturesome are apt to derive the greater benefits from observation of exemplary models." (Bandura, 1977, p.89) Thus, depending on the situation, different people benefit from modeling behavior.

Another group which seems to be affected by modeling is younger children. When Lipscomb et al.(1982) studied the differences between kindergarteners and sixth graders in a modeling situation, the younger children patterned their behaviors more on a model's example than the older children. The authors suggest that with younger children there is less internalization of social norms to help them make decisions about behaviors, so they are affected more by modeling.

A final study about types of people affected by modeling relates specifically to teacher education. Candler & Goodman (1977) studied the relationship between the trait of authoritarianism and behavior modeling in prospective teachers. They found that preservice teachers who were rated as high authoritarians had significantly greater

tendencies to imitate teaching behaviors such as style of presentation, vocabulary, body position and lesson format, which they observed. The study stimulates many questions. Does modeling encourage authoritarian responses? Are the preservice teachers at a place in their teacher development when rigid, closed thinking predominates? How do the authoritarian traits fit with Bandura's findings that the less confident tend to be more affected by modeling?

The above factors of cognitive and emotional development, personality traits and individual needs and wants, do affect the learner in her or his receptiveness to modeling and influence the effectiveness of the modeling.

The Model as an Influence on Modeling

The characteristics of the person modeling are another factor which influences whether modeling takes place. In a study by Lefkowitz et al. (1955), they found that people who have high status, competence and power are more effective in prompting others to behave similarly. Also "Warmth, defined as smiling, friendly, agreeable behavior with frequent expressions of appreciation, has been noted to contribute to the success of modeling." (Perry & Furukawa, 1980) Kazdin's 1974 study adds a final positive characteristic for models to have. He found that imperfect (coping) models rather than perfect (mastery) models better facilitated the acquisition of the new behavior. Learners felt encouraged when the model showed difficulty doing the behavior. When

the model seemed more human, more similar to the learner, (not being so expert), the learner tended to try and succeed with the new behavior.

Some characteristics in models reduce the effects of modeling. If the model is perceived to be hypocritical, the effects of the modeling are lessened. A study by Bryan and Walbek in 1970 showed that the effects of modeling were greatly diminished if there were inconsistencies and discrepancies by the same models over time and between what the models practiced and what they preached. Besides Bryan & Walbek's study, Allen & Liebert (1969) and Hildebrant, Feldman & Ditrichs (1973) also found that discrepancies in modeling behaviors reduced the adoption of the modeled behavior, in these cases, the adoption of high standards. Ormiston (1972) went further and found that if models set high standards for others and lesser standards for themselves, the resulting inconsistency had stronger negating effects than if the models set lower standards for others than those they set for themselves. So hypocrisy reduced the effects of modeling, especially when the model seemed to favor her/himself.

Although clinical studies have shown modeling as an effective method of learning, the above mentioned factors involving the learner and the model, keep it from being a fool-proof method. "...because of the numerous factors governing observational learning, the provision of models, even prominent ones, will not automatically create similar behavior in others." (Bandura, p. 28.) As with any teaching method, modeling will promote learning at some times with some people. It

seems apparent then that modeling can be a useful albeit unpredictable teaching tool in any teacher's repetoire of strategies.

Practical Applications of Modeling

People use modeling, (observational learning) to learn physical skills, such as how to learn to swing a golf club or how to put together a kite. The clinical studies of Bandura, Harris and others took apart modeling, looked at its components and its effectiveness, for use in a wider range of learning situations. Based on the clinical studies, professionals in many different fields have used modeling in learning situations. Some psychologists use modeling in behavior modification schemes, treating phobias, tantrums, and alcoholism. See Albert Bandura's 1969 book Principles of Behavior Modification, for many examples.

Professionals in management training and counselor training have used modeling to impart interpersonal skills, such as assertiveness, active listening and supportiveness, to their trainees. (Byrum-Gaw & Carlock, 1983) Modeling has been incorporated as a technique to help parents teach their children problem-solving strategies (Shure & Spivack, 1978), to train supervisors new skills for interpersonal problem-solving, (Latham & Saari, 1977) and to train paraprofessional drug-abuse workers. (Stokes & Keys, 1978)

Professionals within different areas of education also have used

the principles of modeling in the process of learning. Modeling has been used as an effective teaching strategy in helping learning disabled students work on syllabication problems. The modeling included both teacher modeling and students modeling for each other. (Omizo et al., 1983) In a different realm, Adamsky (1980) studied the teacher as a model for acquisition of non-sexist language by teaching one of her college child psychology courses using the generic "she" in discussions and teaching one of her courses without using it in discussions. The end of semester papers from students in the class where Adamsky used "she" had significantly more generic "shes" in them than those from her other class.

Some professionals are combining information about modeling with ideas from other learning theories. Weiss (1982) encouraged physical educators to incorporate knowledge about developmental factors with behavioral modeling, as an instructional tool.

Some teachers of writing are using modeling as a teaching technique. Muriel Harris wrote in an article for College English about using modeling as an effective way of teaching writing as process. Rather than only using modeling as a demonstration technique, she suggests constant modeling of specific behaviors for learners to aid them in acquiring similar behaviors and attitudes. She sees the power of modeling to be "that it focuses the observer's attention on processes to be used in the act of writing...showing, not telling students about composing processes." (Harris, 1983, p. 77) Harris

refers to Kadzin's study (imperfect models having more success than "mastery" models), when she writes about teachers being worried about being a "perfect" model.

Research on Modeling in Teacher Education

In the field of teacher education little research has been conducted specifically on modeling. One study looked at modeling in a teacher education college classroom. King (1980) compared live modeling with lecture/discussion in the acquisition of specific teacher behaviors. The study showed that the modeling group performed better on all the three behaviors presented. King's research, along with Adamsky's acquisition of non-sexist language study referred to above, was the only found in the literature search which dealt with live modeling in a natural college class setting.

Research on modeling in teacher education does appear in the area of micro-teaching, a more clinical setting. Bandura and his colleagues had demonstrated that a filmed model was just as effective as a live model in changing human behavior.(Bandura, Ross & Ross, 1963b) Koran et al.(1971) demonstrated that changes in teaching behaviors occurred by employing modeling as a variable. Dwight Allen, while at Stanford, developed micro-teaching as a means of providing practice for preservice teacher trainees prior to their student teaching experience. Micro-teaching, along with micro-counseling (Ivey &

Authier, 1978) involves filmed models displaying the specific skills to be learned. The teaching process, or helping process in micro-counseling, is broken down into specific components, taught as single units and later integrated into a whole. In both types of micro-training situations, and also with Bandura's findings, a concern exists about how long and under what conditions are the skills maintained. With micro-teaching, studies showed that the learned skill did not carry over into classroom teaching, unless the "training was complemented by appropriate intervention behaviors of the cooperating teacher in the field...[only then] did any significant behavioral differences result." (Copeland, 1977, p. 154.)

The intervention behaviors that Copeland writes about are modeled behaviors on the part of the cooperating teacher. When investigators tried to pin point the significant influences on the learning of student teachers they continually found that the behavior patterns of cooperating teachers greatly affected the behaviors of student teachers. Day & Konicek (1970) and Yee (1969), among others, show in their studies that student teachers' teaching styles and attitudes toward young people are highly influenced by their cooperating teachers. Since the cooperating teachers do not just consciously model specific teaching behaviors they want their student teachers to learn, but model their whole teaching styles, Yee says it is important "to realize that incongruent as well as congruent influence may occur in such dyadic relationships." (p. 331) The influences by the cooperating

teacher on the student teacher may be negative ones as well as positive ones. The manageable specific behavior presented in a clinical or micro-teaching setting involves modeling in one way. The constant, conscious and unconscious interaction with many complex behaviors of a cooperating teacher - student teacher relationship involves modeling in a quite different way.

All the clinical studies on modeling, and many of the applications of modeling, involved learning specific, individual behaviors. This tendency may come from the fact that the researchers and clinicians who first analyzed modeling were behaviorists and believed that people's learning consisted of many small behaviors combined together.

Now other professionals, without such a strong behaviorist leaning are applying the knowledge taken from the modeling research to a more generalized view of how people learn. For example, as Muriel Harris says in the quote above about the writing process, she goes beyond the traditional way of defining modeling and includes acquiring behaviors and attitudes in a process. She doesn't suggest modeling one behavior with students, but, instead, suggests modeling a whole process.

Focusing on wider classes of behaviors, rather than minute and detailed behaviors, interests many teacher educators. Arthur Combs, a noted teacher educator, writes about the limitations of a behavioral-objectives approach to teacher education. These same

reservations can apply to the narrow view of modeling.

> When applied to the teaching and learning of precisely defined skills, or to the production of clearly defined simple behavior, the behavioral-objectives model can make important contributions. Applied to the more complex goals and qualities of teacher education, [this approach] is far less satisfactory. (Combs et al., 1974, p. 169)

Both teaching and modeling involve many complex concepts and processes which cannot be defined in simple behavioristic terms. Some theorists have wanted to give separate labels to the process of modeling simple behaviors and the process of modeling complex behaviors.

> Some argue, for example, that identification should be used to refer to broad-scale imitation of many of the model's actions or attitudes, while the term imitation should be limited to more isolated, discrete cases of matching behavior. (Yando, 1978, p. 62)

As the researcher reviewed the modeling literature and analyzed modeling, learning about its components and its uses, the thought of what modeling means in teaching a 4th grade class or teaching a college methods course kept reoccurring. How did modeling used in the clinical studies relate to using modeling in actual teaching? The results from the studies suggest that modeling is a very effective way of teaching. The biggest differences between clinical use of modeling and classroom use of modeling lie in,

1. whether the modeling is conscious or not,
2. how many behaviors are modeled at a time, and
3. for how long the modeling is continued.

In the clinical studies the models are very conscious about the specific behaviors they are modeling. The objectives of the study are very narrow, simple and easy to keep in mind. Sometimes a classroom teacher will have a specific behavior in mind for a lesson and can consciously model the behavior as part of the lesson. An example of this might be: A teacher has sloppy handwriting. As part of a program to help the whole class be neater writers the teacher consciously works on her/his handwriting, when writing on the board or on students' papers.

But the classroom differs from the laboratory because the teacher and children are together for much longer times and much more is expected to be learned. The children observe the teacher all day long. Whether a teacher wants to be a model or not is irrelevant when a classroom full of students are continually watching everything the teacher does. A classroom teacher can't consciously model hundreds of little behaviors as a way to help children learn. The teacher may consciously model certain behaviors as a teaching technique, but it is likely that most modeling occurs unconsciously and is part and parcel of the teacher's unique personality. The teacher provides a model for much incidental learning which includes socializing skills, rationality of thought, attitudes and values, emotional maturity, politeness and logical thinking.

Even some people working with the narrow view of modeling acknowledge the importance of general modeling. Allen Ivey devoted a

whole book to microcounseling and the learning of specific behaviors yet he recognized that the supervisor running the microcounseling program also plays a very important role in the learning process.

> Most important, the supervisor in a microcounseling training session must model the skills he or she is teaching. If the supervisor does not attend to the trainee when teaching attending behavior or note appropriate emotions and feelings when teaching reflection of feeling, little learning in the situation will occur. (Ivey & Authier, 1978, p.12)

Although teacher educators have not written very much specifically about generalized modeling, educators have looked at the classroom teacher's behavior from other angles. Lillian Katz (1976) and Kenneth Zeichner (1980), among others, have written about the socialization of teachers and student teachers. In Katz's article she presents one definition of socialization as "the process by which persons acquire the knowledge, skills and dispositions that make them more or less able members of their society." (p.70) Socialization involves more than just learning specific skills. Zeichner acknowledges that the apprenticeship of observation (the observing of a model), especially with the cooperating teacher, plays a large part in student teacher socialization.

Mentoring also involves generalized modeling. Writers and researchers have studied mentoring within adult development, business and education. Mentoring looks at the mentor as a whole person, influencing the protege in an assortment of ways, which is similar to a model being observed in many situations for long periods of time.

Direct parallels between modeling and mentoring have not been drawn, perhaps due to the lack of specific information about the effects of mentoring in education. According to Sharan Merriam in her critical review of the literature on mentoring (1983), "given the idiosyncratic nature of available studies, little can be said with regard to either the prevalence or importance of mentoring for students, teachers or administrators in educational settings." (p. 169)

The review of the literature establishes the importance of modeling as a form of learning and teaching. The literature also introduces the characteristics of a model which are necessary for modeling to be successful in any given situation. The literature does not specifically apply the knowledge of modeling and the characteristics of modeling to the area of teacher education. For modeling to be studied in teacher education a description of successful modeling which is applicable to teacher education needed to be developed using those characteristics introduced in the literature.

Elements Crucial to the Concept of Successful Modeling

The literature suggests that certain elements appear to influence the success of modeling more than others. These elements are vital to any use of modeling in teacher education. The researcher has extracted these elements from the literature. Six of these factors involve the model and the last two involve the environment the model (teacher) sets

up.

1. The ability to gain the observer's attention, because of having high status, power, competence or interest
2. Warmth, defined as supportive, agreeable behavior with frequent expression of appreciation
3. Humanness; not to be a "perfect" model, but showing the difficulties inherent in learning the behavior
4. Consistency in presenting a behavior
5. Congruency between what is said and what is done
6. Awareness of the observer and her/his needs and development
7. Participant observation (trying a behavior while watching a model)
8. The results being "worth it"

Each of these eight elements have been found significant in modeling studies and are applicable in teacher education.

1. The ability to gain the observer's attention, because of high status, competence, power or interest

This element comes from the early studies on modeling (Lefkowitz et al., 1955) and fits in Bandura's "attentional processes" mentioned above. In teacher education, many instructors will capture the students' attention because they are competent and are teaching in an interesting way. Instructors also hold power, to pass or fail students. If a reputation of incompetence ("she hasn't worked with children for twenty years") or lack of interest ("he doesn't care about any new innovations in education") precedes an instructor, the first step in learning through modeling may not occur. Issues of academic rank, race, gender and different students' susceptibility to authority are all areas of study which are relevant to this element.

2. Warmth, defined as supportive, agreeable behavior with

frequent expression of appreciation

This second element, documented by Perry & Furukawa (1980), just seems like common sense. Of course students would be more likely to model an instructor's behavior if they were not put off by a cold, nonsupportive manner. But in spite of all the research about the effects of positive reinforcement on learning, not all teachers give supportive feedback to students. The study by Day & Konicek (1970) presented an example of this phenomenon. Although the researchers were in elementary classrooms collecting data for another purpose, they were surprised with "the almost total absence of reinforcement on the part of the experienced teachers and the student teachers."(p. 43) If elementary teachers can show a lack of appreciation, the possibility of college instructors lacking that quality exists, too.

3. Humanness; not to be a "perfect model", but showing the inherent difficulties in learning the behavior

Kazdin's study supports this element (1974) as crucial to successful modeling. Students feel they have a better chance of achieving those teaching behaviors the instructors are modeling if they see the instructors having trouble performing the skill or explaining the idea. Seeing "imperfect" modeling has another effect on preservice teachers, also. Beyond helping the students learn those specific behaviors, the instructor models a general sense of "humanness". If their instructors did not lose the students' respect for acting "humanly", the new teachers might try to be that way with their

students. And for instructors, to not feel the burden of being right all the time, may free them up to do more exploring and growing themselves.

4. Consistency in presenting a behavior, and

5. Congruency between what is said and what is done

Both of these elements are central to successful modeling. Bryan & Walbek's study (1970), among many others, showed that inconsistencies and discrepancies over time and between what the models practice and what they preach seriously diminish the effects of the modeling.

Jack Wideman (1970) developed the term reflexive coherence to represent a "freedom from contradiction" between what counselor educators profess are their assumptions and what they actually do. Reflexive coherence applies to teacher educators also, in how their ways of teaching complement and support their assumptions about how people learn and grow and how they think people may be helped to learn and grow. When educators and education programs are reflexively coherent the message they are trying to get across to students comes through two-fold, by what they say and, perhaps, more importantly, by how they say it. In this case, "the medium is the message"! (Mcluhan, 1967)

The elements of consistency and congruency are perhaps the most important parts of modeling in teacher education because they are central to unconscious modeling. Unless instructors continually think through their assumptions and philosophies underlying what they teach

in methods courses, the possiblity of reflexive "incoherence" (Wideman, 1970) exists. Assuming that most instructors would not consciously contradict what they profess by what they do, reflexive incoherence happens unconsciously. When instructors talk about assumptions, beliefs and ideas they are putting them out on the table for students to pick up, analyze, question, try out or reject. If instructors are not aware of the implicit messages and attitudes behind their words and their unconscious modeling of contradictory messages, students will not have the opportunity to examine what is being offered, and will not be aware of adopting certains ideas. If students are aware of the contradictions, they may lose respect for and confidence in anything else the instructors say. When reflexive incoherence exists students are not getting the benefit of seeing ideas being reinforced and in some cases little learning happens due to the mixed messages observed in the teaching styles of the instructors.

6. Awareness of the observer and her/his needs and development

Because certain types of people respond to modeling influences more than others, (Bandura, 1977 & Lipscomb et al., 1982), this element of successful modeling helps to insure that the modeling is appropriate for those involved. Piaget (1951) writes of the need for behaviors not to be too highly novel or they cannot be incorporated. Bandura also writes that behaviors which are "moderately familiar would be easier to learn than the markedly different." (Bandura, 1977, p. 32) To make sure the behavior is an appropriate one to model, the teacher must know

what the student needs, wants and is capable of learning. An egocentric instructor has less chance of presenting behaviors which students may accept and emulate than an instructor who really pays attention to what the class as a whole, and the individuals within it, need and want at a particular moment.

7. Participant observation (trying a behavior while watching a model, and

8. The results being "worth it"

These last two elements necessary for modeling in teacher education emerged in a study of preservice teachers' perceptions of modeling. (Roose, 1984) The preservice students' views of successful modeling paralleled very closely their definitions of good teaching. Two elements they saw in teaching, active, hands-on learning and learning being fun, corresponded with characteristics emphasized by the scholars and researchers not extracted initially by this researcher.

In the study the students' enthusiasm for active, hands-on learning parallels Bandura's suggestion for participant observation. In Bandura's earlier writing (Bandura, 1969) he believed that only observation of a model was needed for learning to take place. In his later work Bandura added that the modeling would be reinforced if the observer (learner) tried the behavior while watching the model. (Bandura, 1977b) This involves the learner (observer) doing while watching the model, rather than just watching. In clinical modeling participating while observing is not a characteristic or quality of the

model as it is with the other elements discussed above. The "doing" is done by the learner, not the model. This parallels the school setting because the "doing" in an active hands-on classroom resides with the students, not the teacher.

The other quality pulled from the perceptions of the preservice teachers (Roose, 1984), which parallels a characteristic of successful modeling is to make learning fun. Its sister concept in the clinical modeling world is that if a learned behavior is not "worth it" for the learner, the learner will not continue that behavior. In school, "worth it" may mean receiving A's, or recognition or praise, but, as the undergraduates saw elementary classrooms, more learning would happen if it were fun (worthwhile) for the children.

These two additional elements, along with the other six listed above, may have a two-fold effect on student teachers. The first involves the learning of teaching skills and ideas. If an instructor gains the students' attention, supports their efforts, shows humanness, consistency, congruency and is aware of individuals, in an environment in which the student is actively involved and feels the learning is "worth it", the students probably will learn the ideas and skills the instructor is trying to teach. Secondly, and perhaps more importantly, the instructor provides a model of how an effective teacher teaches.

Although no undergraduate preservice teacher education programs based on modeling could be found in the literature, three other sources did write about designing a program with modeling as central to the

program. Bunny Duhl's book From the Inside Out and Other Metaphors (1983) documents a counselor training program's success at incorporating many of the characteristics crucial to modeling, especially the idea of congruency, into the design of the program itself. E. Jones (1975) writes of providing college-level role models for the socialization of elementary-level open classroom teachers. She provides an example of an educator trying to teach the way she wants novice teachers to teach. In Learning to Teach: Teaching to Learn (1979) Gwyneth Dow describes a post-baccalaureate secondary teacher education program in Australia in which the faculty tried "to be living examples of their beliefs and not merely...talk about them in the abstract." (p. 17)

The above eight elements were gleaned from the literature to be included in a description of successful modeling for use in the education of teachers. The characteristics found can be applied to both types of modeling; the presenting of narrow, specific behaviors, and the continuous, personal modeling, which happens while interacting daily with students.

Summary

This chapter has presented a review of the professional literature on the concept of modeling. Its purpose has been to provide a foundation for a study of modeling in teacher education methodology

classes.

The first section of the chapter, entitled Clinical Research on Modeling, outlined the research done in psychological studies on modeling as a learning tool. The components which make up modeling were presented in that section, along with analyses of the influences of the model and the learner on the process of modeling. The Practical Application of Modeling, the second section, described the ways modeling has been used alone and in conjunction with other teaching strategies in different learning situations outside of teacher education. The third section, Research on Modeling in Teacher Education, outlined what little research has been done in teacher education on modeling. The uses of modeling in the narrowly focused learning situation of micro-teaching were presented. The limits of micro-teaching were discussed and then the differences between modeling specific, narrowly defined behaviors and general, long-term modeling of complex behaviors were established. The final part of this section presented added information about general, long-term modeling through a brief review of literature on the socialization of teachers and mentoring. The last section, Elements Crucial to the Concept of Successful Modeling, ennumerated the characteristics which need to be included in any discussion of modeling in a study of modeling in teacher education.

Although the literature provides a basis for understanding the concept of modeling and presents in-depth materials on modeling of

specific behaviors, the information about what general modeling entails and how to implement its use in teacher education remains too general and vague for any practical application. Responding to the apparent dearth of information about generalized modeling in teacher education, the remaining Chapters in this dissertation will describe a study in which modeling in teacher education is explored. Chapter III will outline the methodology used in the study, Chapter IV will describe the study and Chapter V will analyze the results, draw conclusions and look ahead to future research possibilities.

CHAPTER III

DESCRIPTION OF THE STUDY

Introduction

This chapter describes in detail the design of the study. Included is a review of relevant literature, which focuses on the principles of qualitative research design and methodology, particularly the case study approach utilizing in-depth interview techniques and participant observation.

The study consisted of in-depth interviews with two faculty members who were consciously using modeling in their methodology classes, in-depth interviews with four undergraduates in those methodology classes and with three student teachers who had taken those methodology classes the previous semester, and observation of the classes by the researcher.

The Case Study Approach

> Further support of research and development efforts to improve preservice teacher education are clearly needed. Given the state of the field, however, the most beneficial way to begin such efforts is with sound descriptive research, as opposed to experimental work. (Lanier, 1984, p. 27)

To conduct a study which would contribute useful descriptive research on modeling in teacher education, a research design compatible

with this goal needed to be used.

In the literature dealing with methodology there has been great discussion about finding the method or mixture of methods which is most appropriate to the subject and the circumstances of any study. (Denzin, 1977, Patton, 1980, Miles & Huberman, 1984) The researcher must also choose and develop a method of doing research which fits with her or his own personal preferences.

> The issue resolves largely into personal preferences of the [researcher], the intent of the investigation, the available resources, and the [researcher's] decision concerning what "type of interaction" he desires. (Denzin, 1978, p.132)

To find out about conscious modeling and how it showed up in the courses, how faculty intended to use it and students' perceptions of it, the methodology needed to focus on eliciting information from the participants involved and on careful observation of actions in the classrooms.

Qualitative methodology attempts to answer one type of question - "what are the **characteristics** of a social phenomenon, the forms it assumes, the variations it displays." (Lofland, 1971, p.13) Use of qualitative research techniques are the most efficient and appropriate way to gather data to describe and analyze the characteristics of the phenomenon of modeling.

> Qualitative methodologies refer to research procedures which produce descriptive data: people's own written or spoken words and observable behaviors....Qualitative methods allow us to know people personally and to see them as they are developing their own definition of the world....Qualitative methods enable us to

> explore concepts whose essence is lost in other research approaches. (Bogdan and Taylor, 1975, p.4)

Using methodologies which look at causes or consequences of modeling may be appropriate for future research, but are premature inclusions in this study. Techniques central to qualitative research were used to collect and analyze the data. These techniques are described in depth in a later section called Instrumentation.

Faculty Participants

The faculty participants of this study were specifically selected because of their interest in modeling and their willingness to participate in an endeavor to learn more about modeling in teacher education.

Both faculty members are tenured, full professors. Each has been with the State University's College of Education for at least 14 years. Because of their experience they have developed their own teaching philosophies and styles, so the use of modeling is not experimental or faddish, but rooted in years of thought and practice. Their established roles in the College of Education and in teaching undergraduates and working with graduate students adds to their feeling comfortable in the position of being observed.

Although the selection of the faculty was partly based on their self-confidence and willingness to participate, the design of the study was still structured to be sensitive to the "human" feelings and

reactions of the faculty members as they were being observed and questioned about their teaching philosophies and strategies. The calculated omission of any comparison between the faculty involved helped with the sense of safety and trust the faculty members felt as part of the study.

Because the faculty members were the "gate keepers" (Rist, 1980) of the study, (the authorities who would grant or withhold permission for access to the site), negotiations, albeit informal ones, about the study, were necessary as the researcher designed the study. "Access to and participation in a social setting by a researcher entails, almost without exception, some negotiation and bargaining as to the conditions and constraints upon such entree." (Rist, 1980, p.266)

In this specific case the researcher and the faculty members had an ongoing relationship; the researcher had taken graduate courses from the faculty members, taught with them and participated together with them as members of the department for the two years prior to the study. A respectful and friendly relationship had developed between the faculty and the researcher, which made entree into the methodology classes natural and supportive.

The two faculty members involved in the study had, at first, served on the researcher's dissertation committee. The researcher and faculty then realized that to ensure confidentiality for the students participating in the study, the faculty in the study should not also have access to the research data while the students were dependent on the program's approval for their college degrees and certification.

Even after the membership on the researcher's dissertation committee changed the faculty members in the study and the researcher were aware that the faculty were part of an institution granting the researcher her doctorate. The possibility did exist that the overlap of roles might hinder the researcher from gathering and analyzing the data in the most objective and thorough way. Cognizant of this she and the faculty discussed ahead of time the possible positive and negative outcomes from the study. Previewing possible pitfalls and building on the honest supportive relationship already developed between the researcher and the faculty minimized any limiting influences on the study. At no time during the study did the researcher feel a conflict of interests.

Another part of the individual informal negotiations (see Rist, 1980, above), between the researcher and the faculty before the study began, included setting a time to discuss the results. This meeting would happen after the completion of the study and the writing of the dissertation. At that time, the researcher would discuss the study with the faculty members, in terms of their own professional growth. These meetings would occur after the students involved in the study had graduated from the program, reducing the possibility of any breach of confidentiality on the part of the researcher.

A possible limitation to any study where the researcher is looking at specific behaviors is the fact the the faculty will know they are being watched and that will affect the data. In this case, that awareness of being observed was an asset. The study focused on

conscious attempts at modeling. If the data reflected the faculty members' trying to use modeling, more actual information may have emerged about modeling.

The faculty members are part of a team of faculty and graduate students who teach and administer the Elementary Education Department Preservice Program. This study only looked at two of the courses; yet, being part of a whole program may have affected how and what the two faculty members in the study presented during their classes and what they may have left to the rest of the program. This factor was considered in all analyses.

The students also interacted with the faculty at whole program events and individually, outside the regular class time. The researcher did not observe at all those times. Some information from those interactions did surface during subsequent interviews.

Methodology Courses

The courses observed in this study were Principles and Methods of Reading and Language Arts in the Elementary School and Principles and Methods of Teaching Science in the Elementary Schools. They were both semester-long full credit courses, as part of the Elementary Education Department Preservice Program. The courses were taught in the first semester of a two semester program. During the semester of the study instead of meeting weekly for two and a half hours, as is usually the way the courses are structured, the faculty arranged between themselves

to have the Reading and Language Arts Course meet between 9 a.m.and 3 p.m.once a week for the first half of the semester and then have the Science course meet at that time for the rest of the semester. This switch still involved the same amount of time in class for the undergraduates as regular scheduling would. This switch was not due to the presence of this study and did not affect the study in any significant way. The faculty involved in the study have taught these courses many times over a period of 14 years.

Student Participants

Fifteen students participated in the program and courses fall semester 1984. The same students were enrolled in both courses involved in this study. These students were accepted into the Elementary Education Program spring and summer 1984. They were selected through an admission process which included an individual and a group interview, a written application and a reference. They all had taken prerequisite education courses and had had some experience working in schools through those courses.

Many of the fifteen students were included in the study through informal interviewing during breaks or after class about specific comments or actions made by the faculty members, and as part of the observations made by the researcher.

Six students were initially contacted to participate in the formal interviews in the study. From those six, four students were

specifically chosen to be given in-depth interviews during and at the end of the semester. This number of students provided a sufficient amount of data for a study of this size. From first impressions and information obtained from other staff members, the researcher chose the four for in-depth interviewing. No attempt was made to choose the subjects randomly. A purposeful sampling was done. The subjects were chosen quite specifically because of their ability to aid in gathering perceptions of modeling in the methodology classes. Their ability to articulate clearly their perceptions and opinions was a crucial criterion in their selection. In their discussion on choosing a subject Bogdan and Taylor write,

> people simply do not have an equal ability and willingness to make vivid the details and meaning of their lives. And while a good interviewer may be able to bring out the best in subjects, he or she cannot perform miracles on people who are not free with their words. (Bogdan & Taylor, p.102.)

The selected students' ability to, and willingness, to speak freely was an asset to the interviews. Another criterion was to select students who seemed, from their interactions with the researcher in the interviewing and selection process of the program, to take sincere interest in the teacher education process, and would give thoughtful, articulate responses to questions. Other criteria were their ages, different background experiences and willingness to contribute the necessary time involved in the interviews. Two of the subjects were 21 year old females beginning their senior year in college. The third subject was one of the three males in the class. Since a random

sampling might have left out all the males in the class, one male was purposefully selected for inclusion as a subject. The final student chosen for in-depth interviewing was selected because of her age (35 years old), and because she was a parent, which helped give her more life experiences and experience working with children to draw upon during the interviews. In choosing these students the researcher assumed that their perceptions might be somewhat generalizable to the rest of the class, but no hard and fast generalizations were made in the analysis of data.

A limitation to the study rests with the pool of student subjects. Although the scope of this study did not include gathering information on the cultural and socio-economic backgrounds of the pool of students subjects, they appeared to the researcher to be a culturally homogeneous group (all American caucasians), so differing perceptions due to diverse backgrounds were limited.

A second set of students, members of the professors' methodology courses last semester (spring, 1984) and who did their student teaching fall semester, 1984, were also chosen for in-depth interviews. The researcher had worked with all the students during the previous semester, while helping to teach the Reading/Language Arts course. From five students contacted, three were asked to participate in an individual interview, concentrating specifically on their perceptions of the faculty members' modeling the previous semester as it related to their student teaching experience. Again, the students were selected for their ability to articulate clearly their views and perceptions.

The male chosen was the only male in the practicum component of the program that semester.

Instrumentation

As stated earlier, the instruments used in this study come from techniques used in qualitative research. Two major instruments were used, the interview and participant observation.

Both in-depth interviews and informal interviews were utilized in this study. In-depth interviewing took place with the faculty members and selected students, while the informal interviews took place spontaneously with the faculty and many students during and after class.

Use of an interview guide for intensive interviewing, referred to as a "flexible strategy for discovery" (Lofland, 1971, p.76), seemed the most effective way "to provide a framework within which respondents can express their own understandings in their own terms." (Patton, 1980, p.205)

The in-depth interviews were used to collect specific information from both the faculty members and the selected undergraduates. An interview guide was developed by taking the specific objectives of the study and designing an outline of topics to be covered in the interviews, based on those objectives. "The interview guide simply serves as a basic checklist during the interview to make sure that all relevant topics are covered." (Patton, 1980, p. 198)

Several broad categories of questions were developed. Following Patton's suggestion of types of questions to use, the researcher included questions which were designed to obtain information about behavior, experiences, opinion/values, feelings, knowledge, and background/demographics. (Patton, 1980)

These questions were developed only as a guide. It was important that the guide give direction to the questions and areas of questions to be asked, but not limit or restrict the interviewees' thoughts or answers. The interviewees needed to feel free to bring up important issues and questions which were not included in the guide. "One wants the interviewee to speak freely and in his [her] own terms about a set of concerns you bring to the interaction, plus whatever else the interviewee might introduce." (Lofland, 1971, p.84)

Other interview guides were developed for the student interviews conducted mid-semester and at the end of the semester. These guides contained some of the same questions and areas of questions as the initial interview guide, (see Appendix A) but included additional questions which evolved from the first interviews, the informal interviews in class and on going analysis by the researcher. A separate interview guide was developed for the interviews with the student teachers.

Initial interviews structured by an interview guide were also conducted with each faculty member before the semester began.(see Appendix A) A separate interview guide was developed for the faculty for each set of interviews, covering the questions developed from the

broader research questions and on going analysis. The researcher used these questions as guides for the conversations, not limits.

The other major instrument for collection of data was participant observation, the "being in or around an ongoing social setting for the purpose of making a qualitative analysis of that setting." (Lofland, p. 93)

There are different levels of involvement participant observation may take. (Lofland, 1971, p.93, Bogdan and Taylor, 1975, p.30) In this study the researcher was a fully known observer participant. In this role the "observer's activities as such are made publicly known at the outset, are more or less publicly sponsored by people in the situation studied, and intentionally not 'kept under wraps'." (Patton, 1980, p.130)

During the portions of the courses which were mainly discussion, the researcher participated in the discussions while tape recording the conversations. She did not participate in class activities, but during those times observed the activities and the interactions between the faculty and students and between students.

Participant observation was a needed additional research technique for this study. It supplemented the data collected by in-depth interviewing.

> Observation is critical in enriching our ability to give accounts of events. Informants, giving accounts in interviews, may leave things out....Some details of the account may be left out as "unimportant" or "obvious" when, in fact, they represent important things for the [researcher] to learn. The informant may just flat forget some details, or perhaps be misinformed,

> or, on the basis of limited experiences, give an idiosyncratic account. (Agar, 1980, p.110)

Because being a participant observer entailed interacting with people along with actual observing, some additional data was gathered from these casual interactions before, during and after class. The researcher was present during all the classes. Since the students and faculty knew why the researcher was in the class observing, they initiated some conversations about thoughts and feelings they had about modeling which had been sparked by actions or words during class. These conversations were informal interviews, because the researcher did not have a set of questions to refer to, and they happened in other situations than one-on-one isolated talk.

Qualitative methodology research sources suggest use of "triangulation" in data collection and analysis, as "a process by which the [researcher] can guard against the accusation that a study's findings are simply an artifact of a single method, single data source, or a single investigator's bias." (Patton, 1980, p.332) Triangulation is defined as "the use of a variety of data, investigators, theories, and/or methodologies in the study of the the same object." (Denzin, 1978, p.295) Included in the design of this study were multiple interviews to generate data over time and perceptions and observations of students (both present and past), faculty and the researcher (as observer) to gather data from different sources. The researcher hopes this use of data triangulation helped guard against bias in the data.

In any research the question of the effect of the researcher on

the study needs to be addressed. The researcher has been interested in and has explored the "process" of teaching and the concept of conscious modeling for years. The qualitative methodology chosen to be used to collect data required much interaction by the researcher with the participants and their thoughts and beliefs. Because the researcher was a graduate student in the Elementary Education Department Doctoral Program and knew the faculty members personally, her own views and attitudes may have shown up in the interviews and in her observations. This involvement need not be a limitation.

> Observers or interviewers are attuned to their influence on subjects. They view themselves as they would view any other participant in a situation. They are thus able to weigh their influence when they analyze their data. And when they report their data, they should give sufficient detail concerning procedures to permit readers to similarly weigh this influence. (Bogdan & Taylor, 1975, p.12)

The researcher consciously reported and analyzed her position in the study, to help minimize the effect as much as possible.

Data Collection

After selecting the potential student subjects and developing the interview guide, the researcher made initial contact personally with the student subjects during the whole program orientation workshops. They were given a brief overview of the nature and purpose of the study, how they had been selected as potential subjects, and what their role was to be in the study. Each student was then asked if she or he

would agree to participate. The researcher assured the students that their identities would not be revealed in the final report of the data and any confidential information would not be included. As the students agreed to participate in the study a time and place for the first interviews to occur was arranged.

The methodology literature frequently mentions the need for careful consideration when selecting the time and place for interviewing to occur. The time and place must be convenient for the subject, appropriate for the nature of the interview and relatively free from distractions for both the subject and the researcher. (e. g., Patton, 1980, p.249; Bogdan and Taylor, p.107) The interviews with faculty took place in their offices. The student interviews took place in a variety of locations, all of which were private and comfortable for both the interviewees and the researcher.

All four of the student subjects and the faculty members were interviewed at least three times, once at the beginning of the semester, once mid-semester, and once at the end of the semester. The student teachers were interviewed once during the semester. They were also contacted briefly after their student teaching experiences had ended, to gather perceptions pertaining to modeling which they had because of having been "in charge" for a week at the end of their student teaching experiences.

Each initial interview began with a review of the description of the study and an explanation of the format to be used during the interview. Each interviewee read the human research consent form

presented by the researcher and then agreed to participate officially by signing the agreement statement. Then the researcher asked if the interviewee had any questions or was confused in any way. In one initial interview the student was concerned at the outset that she might just "babble" on and needed to be reassured that her "babbling" was appropriate and needed. This providing of a clear overview and trying to be aware of the interviewee's needs helped establish rapport between the researcher and the interviewee. The importance of establishing rapport is well documented in the literature and considered essential for the success of in-depth interviewing. (e. g., Patton, 1980; Lofland, 1971) If the subjects understand the nature of the study and feel comfortable with the researcher and the research methods, they will feel safer about their role in the process, feel that their contributions are valued and will be more interested in seeing the project succeed. This sense of safety about the study and interest in it certainly seemed to exist with the participants in this study. Throughout the data collection process both faculty and students would come up to the researcher, bringing new perceptions or thoughts. They seemed to be very clear about the study and their parts in it and seemed to feel very comfortable interacting with and asking questions of the researcher. The personal involvement by the researcher with the concept of modeling and with the participants probably added to the depth of the data collected and to the ease with which it was collected.

After giving the overview of the project, and reaffirming the

confidentiality and care the researcher would use in working with any of the collected data, the researcher will then ask permission of the interviewee to use the tape recorder. She explained why the thoroughness and exactness of taping was needed for the study. The use of the tape recorder freed up the researcher to interact with the interviewee, rather than just spending time frantically taking notes. Lofland states that, "for all intents and purposes it is imperative that one tape record.....if conceivably possible, TAPE RECORD. Then one can interview." (Lofland, 1971, p. 89)

The sequence of the interviews was important to this study. The faculty members were interviewed first, before the semester began, to record their thoughts about modeling and their ideas and plans for using modeling during the semester. The initial student interviews took place during the first week of classes to capture first impressions of the faculty members and their teaching strategies. Although, of the two courses in the study, only the Reading/Language Arts course officially met that first week, the students interacted with the faculty member who taught the Science Methods course as he facilitated the planning of an overnight outdoor experience with the whole program.

The sequence of the interviews was also important due to the relationship of the researcher with the faculty members. Because of the researcher's interest in modeling and her collegial relationship with the faculty members involved in the study, certain precautions needed to be taken to assure that she did not take on the role of

facilitator in addition to the role of researcher during the study. Reflection on and changes in their uses of modeling on the part of the faculty because of their interaction with students was appropriate to this study. Sharing of specific information and insight by the researcher to facilitate change in a certain direction was not appropriate during the study. To help prevent this unconscious "help/teaching" from happening, the researcher interviewed the faculty members before the students during the mid-semester set of interviews. In that way the ideas and perceptions of the undergraduates were not fresh and foremost in the researcher's mind as she interviewed the faculty. The second and third faculty interviews were also structured by a tight interview guide so as to keep the researcher's input at a minimum, while still encouraging the faculty to talk about what they were thinking.

Because of all the previous thoughts about modeling and her predisposition for "teaching/helping" people, the researcher also had to consciously keep from supplying ideas to the students. She had to keep from having an idea in her head about how she wanted the participants to talk about modeling. In most cases the participants did feel comfortable developing their own ideas, but a few times the researcher thought that some participants were feeling that she was looking for "right answers". Also, because some of the participants had not thought about or talked about modeling before, they struggled in finding the words they wanted, to describe what they meant. The researcher sometimes had trouble standing back and letting the

interviewees come up with their own words. Hopefully, because the interviews were long and occurred over a period of time and the researcher usually did allow the participants to talk in their own words, any effect of researcher "teaching" was diluted.

As with interviewing, establishing rapport with the subjects was the first goal of the researcher as participant observer. The participant observer must "be non-threatening, supportive, [and] be interested." (Lofland, p. 100) Explaining fully to the class on the first day the reasons why the researcher was there and what her role was seemed to have helped establish a trusting working relationship between the researcher and the class. Probably a truly comfortable relationship only occurred over time and depended on the researcher's actions, not words. Patton, in his book on qualitative methodology, presents anthropologist Rosalie Wax's (1971) argument about entry into an observational setting. She believes "that over the long run the people being observed will respond to the observer more on the basis of what the observer does than what the observer says about what he or she does." (Patton, p. 175)

After the explanation of the study and the researcher's role, the human subject research consent forms were handed out to all the students and staff in the class. The forms explained the scope of the study and who would see the data and when, and assured the participants of their right to drop out of the study at any time without any consequences for their actions. All participants, except those who had received similar forms at the beginning of their in-depth interviews,

signed the consent forms and returned them to the researcher, keeping for themselves the sheet which explained the study.

Using participant observation as a research technique entailed observing what was happening in each class period and writing down field notes so as not to forget those observations. Field notes are regarded by methodologists as essential for case study observations.

> The fundamental concrete task of the observer is the taking of field notes. Whether or not he performs this task is perhaps the most important determinant of later bringing off a qualitative analysis. Field notes provide the observer's raison d'etre. If he is not doing them, he might as well not be in the setting. (Lofland, p.102)

A combination of strategies for recording developed by Lofland, Schatzman & Strauss (1973) and Bogdan and Biklen (1982) were used in this study. These strategies gave organization and direction to the collection of data plus helped start making analysis an ongoing part of the data collection.

Although note taking was essential and central to observation, caution was used not to get so wrapped up in the taking of notes as to become just a recording machine.

> Field notes...are a problem. In their worst form, they are an attempt to vacuum up everything possible, either interrupting your observation to do so or distorting the results when retrieving them from long-term memory. Not that you shouldn't keep notes, but they should be more focused in topic... (Agar, 1980, p. 113)

The field notes consisted of some ideas from observation which were followed up with interviews, or observations or questions which

were followed up which came from interviews. "Field notes, then, are working notes." (Agar, 1989, p. 113) A balance then was hopefully established during observation. On one hand, the researcher experienced and described what was happening in the class, being clear about not imposing preconceptions and early judgments on the phenomenon being observed. Yet, at the same time, any field-generated insights and interpretations were used to help guide the focus of the observations.

After the initial interviews with the faculty the researcher developed a preliminary list of beliefs, practices and attitudes which the faculty felt they consciously attempted to model in their methods courses. The list was broken down into categories and brought to the class to use for a focused guide for gathering observations. The researcher placed observed behaviors into the already established categories. There were some behaviors which did not seem to fit in any established category. They were written down and used as questions in informal discussions with the faculty or were used in the second formal interviews. The interviews influenced the observations and the observations influenced the direction of subsequent interviews. The same phenomenon occurred with the in-depth student interviews and observations. The students generated categories and questions about what they perceived the faculty were doing and these ideas were used as topics on which to focus during the observations. Interactions or statements made by the students and observed or heard by the researcher were brought to the formal and informal interviews throughout the

semester.

The observations in class seemed to divide up into three distinct parts. First, observations of the physical set up of the classroom were noted each class; the location of chairs, tables, where students sat, where the faculty members placed themselves, what was initially written on the board for each class, where food was located and the temperature of the room. Many of these variables did change with each class. The second part of the observations centered on the activities in class; their variety, the interactions between participants during the activities, the traffic flow during the activities and the roles played by the faculty and students during that time. The last part of the observations dealt with the discussion times. During those periods the researcher tape recorded the discussions and then analyzed the conversations later. During the actual discussions the researcher participated verbally and also jotted down relevant non-verbal behaviors.

Besides collecting data through observation during the classes, the researcher tape recorded or wrote down brief conversations she had informally with faculty or students or she had heard between participants.

Data Analysis

> "Data Analysis" refers to a process which entails an effort to formally identify themes and to construct hypotheses (ideas) as they are suggested by data and an attempt to demonstrate support for those themes and hypotheses. (Glaser and Strauss, 1967)

Data analysis is a meaning-making process, not merely a procedure for compiling results. This investigation is no exception. A preliminary analysis of results took place every time a new set of data was collected.

As the interviews and observations proceeded certain questions and answers seemed less relevant to the objectives of the study, while others seemed to lead to additional questions and connections. This, according to Glaser and Strauss's model of constant comparative analysis, is an initial step in data analysis. Their model stresses the importance of beginning to analyze preliminary data while they are still being collected.(Glaser and Strauss, 1967) Analysis is not a separate part of the study, only done later after all the data have been gathered, but is part of an ongoing process, "starting as soon as the researcher speculates about anything." (A. Eve, personal communication, November 1983) The researcher also involved the participants in the analysis part of this study. The faculty members' lists of categories were brought to the second and third interviews. The researcher then recorded Virginia and Henry's thoughts about what they had said previously. The major ideas from the second student interviews were presented to the students in the last interviews for their comments, reflections and revisions.

As with any study the researcher's own judgments and evaluations were present. By including personal thoughts and judgments in a separate section as part of the ongoing analysis, the researcher was

able to validate/express those feelings and thoughts as they occurred. Because of this validation the researcher was able to look more objectively at the actual data. This technique also made those thoughts and feelings available for analysis at a later time.

The process of data analysis began as soon as the interviews and observation started, but the majority of analysis and interpretation of the data occurred during the post-interview and observation period. One of the major tasks in the analysis was the answering of the research questions listed in the Statement of Purpose. The researcher was also alerted to the emergence of any rich sets of data which might have led to other questions or avenues of inquiry.

CHAPTER IV

PRESENTATION OF THE DATA

Mode of Analysis

The aim of this section is to establish the framework for the presentation of the data from the case studies. Although the two faculty members involved in this study are part of the same program and have the same students in their methods courses, for the presentation and analysis of the data they are treated as separate case studies. Virginia Apple's case study comprises the first half of Chapter IV and the case study of Henry Seavitch is documented in the second half of Chapter IV. After the two case studies the undergraduates' general impressions of modeling are presented. Chapter 5 consists of the findings from the study and recommendations for further research.

Each case study presentation is based on the broad research questions introduced in Chapter I (p.11).The first three research questions deal with gathering biographical information pertinent to the use of modeling, the faculty members' rationales for using modeling and the factors they see supporting and hindering their usage of conscious modeling in the methods courses. Information gathered from the in-depth faculty interviews and observations by the researcher constitutes the bulk of this section.

After the groundwork has been set, the second part of the case

study, focuses on the last three research questions, including what specific beliefs, practices and attitudes the faculty tried to consciously model, which ones were perceived by the students, as well as which beliefs, practices and attitudes the faculty may have unconsciously modeled and which ones were perceived by the students.

The faculty's beliefs, practices and attitudes which they consciously tried to model are divided into categories the faculty created themselves. The observer's perceptions of what the faculty were modeling are then presented, along with the students' perceptions.

Case Study of Virginia Apple

Virginia Apple has worked at the College of Education at State University for over fifteen years. Before college teaching she taught elementary school in a large metropolitan area. Virginia feels that she has always used conscious modeling in her teaching and the roots for using the modeling came from her family.

> I'd like to think I've always done it [conscious modeling]. I'd like to think I did it with my kids in elementary school. I told them I was doing it. I've always had very, very strong feelings about not saying to somebody, "do as I say, not as I do." I think I grew up with those. I think my parents instilled that in me. I think they modeled. And I think they consciously modeled and I think they told me so.

Central to Virginia's discussion of the reasons she uses modeling is the notion of "hypocrisy". In her family, "hypocrisy got translated

into you say one thing and do another; it doesn't fit." When she was growing up she was bothered when "someone said something and didn't behave in the way they said they were behaving." In her family the congruent behavior in oneself was "the base from which we operated."

This "ethical base of behavior" stayed with Virginia as she became interested in education. She would "take to heart" any information about modeling and use it as evidence to support what she felt she had always been trying to do. An example of this incorporation of support evidence was her familiarity with Albert Bandura and his studies on modeling. She was the person who mentioned Bandura to this researcher at the beginning of this study. She said in the first interview that she had "glommed on" to Bandura, because his findings gave more support for what she knew. When she had been studying behavioral psychology and all of her friends were fashionably opposed to it, she remembers thinking, since we really are "manipulating other people, motivating other people, providing contingencies of reinforcement" in schools, "we should be aware of who we are and what we are doing and acknowledge that it has an affect on other people".

Virginia's use of the concept of modeling began from a moral or ethical base within her family and then went on to also became a strong pedagogical belief as she became a teacher.

In both situations she received encouragement for using modeling. Modeling was the "expectation of behavior" at home and in the school setting, as a teacher, she experienced positive reactions

from people for her use of modeling. "I also know, from the time I could remember, I've gotten positive feedback [about modeling]. People have noticed and said it was very important to them." In her class evaluations over the years she would frequently be told "how wonderful it was to see somebody who practiced what she preached."

Throughout the initial interview Virginia was very thoughtful and articulate about her reasons for using modeling. She was obviously not thinking about modeling for the first time and related that she has talked about modeling with her classes over the years. Just as she remembers her parents telling her that they were modeling so she also specifically told her elementary and undergraduate and graduate students that she was using modeling.

Virginia was also clear about the personal factors she felt were necessary for using conscious modeling. Self-confidence was at the top of the list.

> It takes a degree of confidence in order to be a conscious model. Clearly, if you don't think you are doing something that is beneficial, you don't want other people to copy you. You don't want other people to even know you are doing it, probably.

Another factor involves the commitment to certain ideals and certain ways of behavior. She feels that a teacher must consciously believe in a set of values and behaviors or they will have nothing to model. Because modeling has to do with a way of presenting material and information to students, Virginia felt that someone who was concerned about the mode of presentation would be more likely to be

interested in conscious modeling than a teacher who "has the opinion that subject matter is more important than anything else and the definition of subject matter is a collection of facts or information." Those people would be more concerned about "covering" the material rather than spending time on how the material was presented or learned. Other characteristics Virginia thought supported the use of modeling were loving one's work and, perhaps, being bright.

Two final factors Virginia felt contributed to the use of modeling were "experience, more and more and more experience" and the ability to plan well because of the time and thought which are needed to prepare so the faculty member can show as well as tell.

Virginia felt that, even though she had used modeling for years, there were times in which personal factors affected her use of modeling more than she would have liked. She is a very energetic and busy woman, a national leader in an area outside of teacher education and an author of books. She remembers the times when she has over scheduled herself which did not leave enough preparation time or she allowed too many students into the class which then curtailed most activities but lecturing. At those times she felt she had done a miserable job with the modeling. Usually that only happened for an isolated class period here or there. In nineteen years of college teaching she remembers only three or four semesters during which she had permitted sixty students into her course or she had over scheduled herself for the whole semester. She felt that three or four semesters were a lot. During those classes for which she hadn't prepared, she talked more,

instead of modeling. She is dissatisfied with that type of situation, but feels that the students don't mind the change; "the more I talk the better they like it."

Outside of a teacher's own personal characteristics which support the use of modeling, there are also other factors which contribute to modeling. Virginia's colleagues affect her trying to use modeling.

> We support each other enormously, our staff [members]. We have been together for such a long time. And we have sat in on each other's classes, and we generally let each other know what's good, what we enjoyed, what we take from people, what we value. So it has been very supportive. I think if I were with a group of colleagues who did not support me, I would find another group of colleagues. I need support. I need to be able to be supported. I need to be able to respect my colleagues.

Virginia's feeling of receiving support in what she does also comes from the college of education as a whole.

> I am very fortunate in this institution. The environment of the College of Education is very conducive to modeling. We are permitted to do whatever we want to do. We schedule our own courses, control our own population. We teach whatever we want to teach. We teach it where we want to teach it. It's a marvelously fertile ground for us. I suppose if somebody gave me a syllabus and told me what I had to use and told me what materials to use and all that, that would certainly discourage me....I guess the factors that foster conscious modeling...are support, respect, valuing of the same kind of ideals and principles that the faculty members have and I think this college does. It has a good feeling about itself and I think many of us have a very good feeling about the College of Education. We think they are a very bright, creative, caring group of people here.

A visible example of the support she receives from her colleagues and the College of Education is the fact that when Virginia wanted to rearrange the time of her class, they all were agreeable. She changed

the class from a two and a half hour class once a week for the whole semester to a full day class, from 9 a.m. to 3 p.m. for a half of a semester. She felt the full day was more similar to an elementary school day schedule, and she was trying to model a flow for a full day. Because of the switch Henry Seavitch's science methods class was a full day once a week for the second half of the semester. He agreed with the scheduling change and the college approved the change. Virginia did not think that any other program in the country would allow that switching to take place.

At this point in her professional life Virginia feels that both her own personal characteristics and background and outside influences support her using modeling as a central method of teaching. The origin of the use of modeling came from her family's belief in being congruent in what one says and does. That belief permeated her thoughts about how to teach and helped structure her pedagogical principles.

Virginia feels that certain of her own personal characteristics contribute toward the ease in which she is able to incorporate her belief about modeling into her teaching. Those characteristics include self-confidence, love of her work, commitment to her values, and the ability to reflect on her background, analyze information and come up with results. Also her emphasis on the mode of presentation rather than subject matter, her ability to usually plan well and her years of experience contribute to her well grounded and extensive use of modeling.

Virginia has used modeling in all teaching situations in which

she has been, at both the elementary and college level. At the State University she is receiving strong support for her style of teaching from students, colleagues and the administration. This support comes sometimes as specific feedback from colleagues trying one of her techniques or receiving the Distinguished Teacher Award. Virginia was the first person in the College of Education and second woman in the University to receive this award, an honor bestowed by the State University as a whole. She also receives support indirectly, as demonstrated by the College giving Virginia the freedom to develop her own courses. From Virginia's perspective, modeling is a teaching strategy which is congruent with her personal life and educational beliefs, is supported by her personality and reinforced by her working situation.

The Beliefs, Attitudes and Practices Which are Consciously Modeled by Virginia Apple

When asked what beliefs, attitudes and practices she consciously tries to model, Virginia immediately and succinctly stated her first six ideas, not needing time to think or sort out ideas. She had carefully thought about these ideas over the years. The researcher had heard her state many of these ideas before in other situations. As Virginia continued talking about the specific beliefs, attitudes and practices which she consciously tries to model she seemed to be searching for another way in which to present the ideas, rather than just stating them sequentially as they came to her. She soon developed

two major categories, globals and pedagogicals. By the end of the first interview the categories were clearly delineated and described. The globals were defined as "a way of life", "a way of behaving", "a consistency". They may be "less obtrusive" than the ideas in the pedagogical category, "perhaps not articulated", "unframed". The globals consisted of the first six ideas plus others introduced later in the interview. The other major category, the pedagogical, involved "the intellectual, the educational subject matter and the style of teaching". Virginia divided the pedagogicals into two sections, principles and specifics. Because modeling involves learning from observing, Virginia described all her categories in terms of observable behaviors, although some categories dealt with beliefs and attitudes.

After the initial interview had been transcribed the researcher brought the list of categories to the second interview. Virginia rearranged some of the categories, changing a few from specific pedagogy to pedagogical principles. She also added a few ideas she felt were missing and placed within the existing structure the categories the researcher had observed during classes which had not been discussed during the first interview.

Figure 1 below presents all the beliefs, attitudes and practices which Virginia feels she tries to consciously model. They are divided up and placed in the categories Virginia designated. The chart consists of the final placement of categories, established during the second interview.

Figure 1

Beliefs, Attitudes and Practices Stated by
Virginia Which She Consciously Tries to Model

I. The Globals
   A. Humaneness
   B. Praise/positive responses
   C. The listening/attending
   D. Doing things with quality
   E. The pulling together
   F. Evaluative without being punitive
   G. Differing with people but respecting their perspective
   H. To value questions, value challenge
   I. I am a learner/enthusiasm for learning
   J. Self-evaluation
   K. Taking criticism well
   L. Putting priorities into action
   M. A natural way of behaving/spontaneity

II. The Pedagogicals
   A. Principles (areas)
      1. Active participation in own learning/shared decision-making
      2. Building on strengths
      3. Feedback/interaction
      4. Individualized attention
      5. Self-direction
      6. Growth takes time
   B. Specifics
      1. Reading aloud
      2. Non-permanent groups
      3. Self-selection
      4. Using literature as a base for a reading program
      5. Attention to substantive skills
      6. Construction of curriculum that has some connection to children
      7. Use of many materials
      8. Many modes of learning
      9. Peer interaction
      10. Integration

Globals. Virginia's global beliefs, attitudes and practices need to be presented first because they are the ones about which she immediately spoke. Also she values them more highly than the pedagogical. In a later interview she agreed that she would rather have students learn the globals and miss the pedagogicals, rather than the other way around. These categories are in somewhat the order Virginia suggested them, and not in any priority order. The category of globals includes,

A. Humaneness
B. Praise/positive responses
C. The listening/the attending
D. Doing things with quality
E. The pulling together
F. Evaluative without being punitive
G. Differing with people but respecting their perspective
H. To value questions, value challenge
I. I am a learner/enthusiasm
J. Self-evaluation
K. Taking criticism well
L. Putting priorities into action
M. A natural way of behavior, spontaneity

A. Humaneness. Virginia tries to model a "humane and concerned attitude toward people, toward each other". Examples of modeling humaneness she gave were having food and snacks available and arranging the room so the students could see and talk to each other. "I try to think about Maslow and attending to lower order needs, so there is a palpable atmosphere of concern for human beings." Virginia hopes that through the creation of a humane atmosphere in her college class, the students will feel the different type of atmosphere and try it out with children.

> I want them to think about how they treat children, and treat them with respect and in a humane atmosphere, and very often people will change the way they deal with children as a result of how they know they feel because of the way they were treated in our class.

B. Praise/positive responses. The second idea goes along with the first one of humaneness as central to the creation of Virginia's classroom atmosphere.

> I consciously try to model responding in an accepting, supporting manner to any question or any response, so there is an atmosphere in the classroom that prohibits putting down or demeaning of any individual. I accept every answer, not as correct, but as valid. And then to move it beyond, to help take it further. But people generally feel comfortable about participating verbally in my classes and that I consciously try to create that attitude, because I consciously want them to have that in their classrooms. I don't want them to ridicule a child because of any answer, so I never, never use sarcastic humor. And I always consider a response.

C. The listening/attending. Virginia placed attending as a separate category during the first interview. She described attending as "being genuinely interested" in people. Although she felt she usually seemed to the students to be geniunely interested in what they were saying or doing, she also felt that was an area in which she needed to work. During the second interview, as she reviewed the categories, she decided that attending was "demonstrated listening". She then combined attending with the second category of listening, labeling the category "listening/attending".

D. Doing things with quality. This category consists of a wide range of ideas and behaviors. As a way of conveying that she does quality work Virginia does not apologize for good work she does. She

also models revising something, "not know how to spell something and focusing on it, looking it up and asking, but not with an apology or self-denigration, just with 'is that how you spell whatever?'" She also uses a consciously rich vocabulary as part of modeling quality.

E. The pulling together. Pulling together means to Virginia "summarizing, gathering all of the loose ends and making a coherent statement. Virginia wants students to try to model this behavior. It is a way to "help them focus...help them see a main point...help them see major principles."

F. Being evaluative without being punitive. Virginia felt she needed to be clear at all times when modeling this belief so students would really know she was being evaluative, but not punitive. For her "being direct" with students came under this category, one of her ways of being evaluative. But she felt that being direct was part of her style and not something she wanted to consciously model.

G. Differing with people, but respecting their perspective. In conjunction with the previous category, Virginia created this category. Caution needs to be used when working with this category, and Virginia was not sure differing respectfully with people could be successfully modeled. She said that it "is very hard for students to do, so I'm not so sure that works as a modeling, even if the teacher feels comfortable about everybody disagreeing." Virginia felt that background played a significant role with this category. She was brought up to question everything, while "[a] lot of people are brought up to feel that a question or a challenge is a criticism and therefore

is rude." For those people to differ with someone else has negative connotations, so even if they see Virginia modeling that attitude, they might have considerable trouble feeling comfortable accepting it.

H. I value questions, value challenge. This idea follows closely behind respectfully differing and again this idea stems from Virginia's family experience; "My parents were delighted when I came up with a question or a challenge, because it meant I was thinking". She saw this idea also as a hard one for students to accept. Although she does not feel threatened when questioned or when the students disagree with her, they often feel quite uncomfortable being the questioner or challenger.

The next three categories are very closely related and overlapping.

I. I am a learner...to model enthusiasm for learning. Virginia views being a learner in two ways and tries to model them both. One way of being a learner involves content and information. Virginia tries to model loving to learn about content and information. She brings "dessert words", some of her favorite words to share with students, and she wants them to do the same.

> In modeling that, I listen to their questions and their comments and model that that is something I haven't thought about and would like to think about; those are good ideas. And sometimes I don't know the answer to something and I model looking it up.

The other way of being a learner has to do with personal interactions. Virginia tells her students about times when she made a mistake. "I do

that on purpose to show them that nobody is perfect...that we can learn from mistakes." Those mistakes can be about a spelling or about an interaction with students.

Both the content and interpersonal learning involve "next steps". Virginia calls trying to work on something or learning something a "next step". Throughout the interviews, besides creating categories which she felt she did model in her classes, Virginia also talked about areas which she'd like to model more successfully or areas which she wishes she would not model. She calls these areas her "next steps" and they are described in detail on page 95.

J. Self-evaluation. Being a learner about oneself and how you work with people involves self-evaluation. Virginia feels she is very self-evaluative and does like to model that characteristic.

> I think...that I am consistently doing some self-evaluation and coming up with some next steps....I always said there are three reasons for evaluation. One is to design some curriculum next step. Another is to report and another is to make judgement.... And the one I find most helpful is the designing of curriculum reason for evaluation.

Virginia uses self-evaluation as a means to ascertain what are her "next steps".

K. Taking criticism well. Part of self-evaluation is being able to take criticism and using it to grow.

> I think I model taking criticism well. I think when somebody says to me you were too hard there or you jumped in too quickly, I thank people for letting me know....And I don't think I'm down on myself. It doesn't make me a terrible person. It certainly gives me a couple of next steps.

L. Putting priorities in action. For Virginia putting priorities in action meant trying to model those beliefs, attitudes and practices she considered most important to her rather than just talking about them or not touching on them at all. An example of modeling putting priorities into action is

> when I realized that I was telling everybody that reading aloud was important to their students and I wasn't reading aloud to mine, I immediately began reading aloud at every class, so people know that I think it is important.

Virginia feels she does model putting priorities in action, but not as often as she would like. She feels that proper scheduling and attention to how long some thing will take is important to her, but she feels she does not model that well.

M. A natural way of behaving. This final category in the larger set of globals came up when the interviewer asked Virginia about her thought on unconscious modeling. She feels that "nobody is perfect", and she tries to think about what is very important and will try to model that consciously, but will

> not try to consider my every motion, my every word, my every action and deliberately control it and focus it, because I do want to model some spontaneity. I do want to model a natural way of behavior.

She wants students to be more self-reflective, more conscious of themselves, but certainly does not want to paralyze them or herself. As Virginia reviewed her categories during the second interview she added the notion of being a person as well as a teacher to this

category. "Being willing to share one's own life and mistakes, being a person." Her idea of being a person and sharing mistakes ties in with her earlier category of being a learner and acknowledging her own mistakes.

Pedagogicals. While the Globals listed above tend to be more general beliefs, attitudes, and practices, ones which people have as the basis for their view of life or for the way in which they interact with the world, the Pedagogicals focus more on education specifically. For Virginia they include "the intellectual, the educational subject matter and the style of teaching". Virginia subdivides the Pedagogicals into principles or areas of pedagogy and specific pedagogical strategies or techniques. The Pedagogical principles

> are based on our beliefs. Behavior based on our beliefs and there is an underlying structure of beliefs...and these [pointing to the sheet of Pedagogical Principles] are the underlying beliefs that view the whole program, not just this course.

Virginia likes to see at least pieces of the Pedagogical areas taken and applied to the students' own classrooms. The Pedagogicals include,

A. Principles (areas)
   1. Active participation in own learning/shared decision-making
   2. Building on strengths
   3. Feedback/interaction
   4. Individualized attention
   5. Self-direction
   6. Growth takes time
B. Specifics
   1. Reading aloud
   2. Non-permanent groups
   3. Self-selection
   4. Using literature as a base for a reading program

5. Attention to substantive skills
6. Construction of curriculum that has some connection to children
7. Use of many, many materials
8. Many modes of learning
9. Peer interaction
10. Integration

A. Pedagogical Principles (areas).

1. Active participation in own learning/shared decision-making. During the first interview Virginia established these as separate categories, but in the second interview she decided that shared decision-making was a type of active participation. Shared decision-making has to do with groups and group decisions such as how to arrange the chairs in the class, what to do about snacks, and other procedural actions.

2. Building on strengths. Virginia did not include this category during her first interview. The category was suggested by the researcher after noticing Virginia working with students during conferences in class and because the researcher had heard Virginia talk about building on strengths in other program settings. As Virginia had the undergraduates listen to tapes of children reading she always made sure she and the students found the strengths, the positives, in the children's reading before they ever went on to decide a "next step" on which to work with the children.

3. Feedback/interaction. This category arose as Virginia spoke of the feedback sheets she uses with her classes. The feedback sheet is a specific technique, "just one way of modeling constant evaluation and interaction and respect for student opinion." So, although the

feedback sheet in itself would be in the Specifics category, the concept of feedback/interaction is in the broader Pedagogical category. Other specifics within that pedagogical principle are the feedback/interactions of conferences and the written assignments.

4. Individualized attention. Virginia models individualized attention when she takes

> somebody out for a private conference because you have noticed that they aren't getting it from the whole class teaching or you change an assignment for some people or require some extra work from some people.

5. Self-direction. The idea for this category first came from a student's written feedback about the reading/language arts class. The student said she liked the way Virginia encouraged self-direction. When asked about that idea as a category Virginia said

> I certainly do [believe it is a category]. One of the serious quandaries I find myself in every semester is the request by our students to give them due dates for assignments. The request for one book to read rather than a number of books to select from, one specific kind of lesson plan rather than a range and I know that they would be more comfortable, most of them, if they were directed specifically by me. They feel like they have accomplished more if they design their strategies for managing their schedules, for selecting what they are most involved with and most attracted to, for working with the materials that are most appropriate to what they have selected.

Virginia has a motto "if a student can do it, the teacher shouldn't". This motto is an amalgam of different beliefs, including self-direction and shared decision-making. She sees it as "putting into behavior a combination of a number of our beliefs, [a] demonstration in behavioral terms of our beliefs." The behaviors in the specific pedagogy section

(see below) are also demonstrations in behavioral terms of Virginia's beliefs. Those behaviors she put as distinct categories. Perhaps at another time she would put her motto as a separate category rather than included in "self-direction".

6. Growth takes time. Virginia noticed that this principle was not on her list at a point when she was talking about students not being able to do or have immediately every single one of the beliefs, attitudes and practices she models. She does not think it is realistic that the students could do everything on the list right away, and does not expect them to.

Specific pedagogical strategies or techniques.

The final group of beliefs, attitudes and practices Virginia felt she tried to model consisted of specific pedagogical ideas. These are specific strategies Virginia uses in her class and hopes the students will use in their own classrooms.

1. Reading aloud. Virginia starts each of her classes by reading to the whole group from a children's book. She tries to have the reading connect with what she has planned to happen in class that day.

2. Non-permanent groups. Virginia has students choose their own groups for certain times during class. These groups form for each new activity and dissolve after the activity. They are in contrast to the ability-based permanent groups (the Bluebirds, Robins, etc.) often used in elementary schools.

3. Self-selection. This category has to do with materials.

During class and for assignments Virginia expects students to select their own materials with which to work. Although Virginia placed self-selection under specific pedagogies, she added later that it is a subset of self-direction.

4. Using literature as a base for a reading program. Rather than basing a reading program on a published text (a basal reader), Virginia wants students to use literature, in general, as that base. She first put this category under principles, but later placed it with the specific pedagogical strategies.

5. Attention to substantive skills, rather than exclusively the mechanics.

> Mechanics have to do with the way things look, like spelling, grammar, that sort of thing. Substance has to do with understanding, comprehension, creativity, analysis, relationships of one part of the topic to another. So it is the difference between substance and polish.

An example of this emphasis is Virginia's asking for substantive "next steps" to be provided in the reading diagnosis assignment along with mechanical ones.

6. Construction of curriculum that has some connection to children.

> When you talk about heritage in children's literature, a text book might say discuss all kinds of abstract conditions, maybe definitions, maybe something that would not immediately relate to people's personal experience or response. What I try to do, is to begin with the personal response and the experiential and then move outward and eventually get to the abstract or general or global. So...when we were talking about the language experience approach, rather than just talk about theory, we...palpably applied it to our students and we did a number of language experiences and charts,

> stories, activities that related to them and what was going on in their lives right there and then.

7. Use of many, many materials. In order for the principle of self-direction to happen, many materials need to be available, rather than one set of materials, so students can self-select which materials to use and choose how they want to proceed.

8. Many modes of learning. Rather than students being expected to learn in the same ways all the time, Virginia wants to present a variety of ways which students can learn, such as through small and large group discussions, hands-on activities and use of audio-visual materials.

9. Peer interaction. Virginia sees this strategy as one way for students "to value themselves and each other".

> It is a strategy for carrying forth some principles, [including] active involvement, because they certainly have to be actively involved with each other....Part of it is feedback and support from each other. They know that they don't have to rely on it from the teacher, they can get it from each other as well. Part of it is self-evaluation. They aren't as reluctant to talk to each other about what's going on as they would be in public or would be to a teacher.

This specific strategy, as with all the other strategies, helps to concretely work on many different pedagogical principles simultaneously.

10. Integration. This last category was suggested by the researcher because she observed integration of curriculum areas occurring in Virginia's course and because she knew how often, in other settings, Virginia had metioned her belief in integration. Virginia

was very surprised to realize that she had not mentioned integration in her first interview. "We did it all the time. Maybe because it is such a given....I should have mentioned it. We certainly integrated reading, and language arts together and into all the other curriculum areas."

Next Steps. Virginia's thoughtful reflections which produced her thorough and quite exact categories also led her to develop categories which she considered "next steps." As stated above Virginia felt there were some beliefs, attitudes and practices which she did not model as well as she would have liked and other behaviors which she did model and wished she would not have. Virginia was very honest and candid about these "next steps." She added them at different times during the interviews. Because they also were beliefs, attitudes and practices which she knows she does sometimes model, they are included at this time.

Next Steps
- A. Being genuinely interested in people
- B. I sometimes intrude my opinions/giving people advice
- C. Immediately correcting/interrupting
- D. Domineering/overwhelming
- E. Scheduling and keeping neat
- F. Trying to cover the material

A. Being genuinely interested in people. Virginia feels that she does try to model this idea, but sometimes she thinks she does not succeed. "I don't always succeed because there are some people who turn me off. I do think I'm very good at making believe they don't...I

hope so."

B. I sometimes intrude my opinions/giving people advice. Virginia really does want to work on not intruding her opinion in a conversation. She sees the difference between giving her opinion when asked for it and giving her opinion at inappropriate times. "I want to be responsive, but not intrusive, and that is a delicate balance."

C. Immediately correcting/interrupting. Virginia says that she finds it hard not to correct people.

> I have such a proof-reader's head that it is very hard for me not to, nonjudgmentally, (but that often doesn't always come across), to correct. And I catch myself doing it all the time, and it is very hard for me to stop doing that. I'm trying, but I'm not always succeeding....I suspect it will be a life-long challenge.

D. Scheduling and keeping neat. Virginia considers these "next steps" as her "great pies in the sky". She said during the first interview that she holds them up as future goals, not as close "next steps". She said she models poor scheduling of time and messiness, especially of her desk, but did not see any change ahead. A little later in the interview she came back to scheduling when she was talking about what limits her use of modeling. Then she said that over scheduling contributed to her lack of preparation and she was least likely to use conscious modeling when she had not had time to prepare, think and plan. In that context she did see scheduling as something on which she wanted to work immediately. "That's the thing that makes me feel I most need to work as a next step on, scheduling."

E. Domineering/overwhelming. This next step was articulated in an

informal discussion between Virginia and Chuck, the graduate student teaching with her, and the researcher after the third reading/language arts methods class. In stating her initial reaction to the class Virginia said,

> I think that I dominated too much again, and I'm going to Chuck about that....In our agreement with each other, and in my own motto of "if the student can do it, I shouldn't", I did talk to Chuck about that....I just hope that I didn't overpower and come in when he wanted to.

F. Trying to cover the material. This last "next step" category was established by the researcher during the second class and reinforced by a student's comment after that class. Although Virginia did not suggest this category she did mention the idea during the initial interview. In that interview Virginia said she thought that people who were concerned about subject matter above all else would have trouble using modeling because they would be more centered on getting the information presented than the process of presentation. At that time Virginia said, "I find myself doing that (centering just on the information) sometimes. So I know I covered it. And very often that's what happens, it gets covered, buried, as a matter of fact."

Observations of the Reading/Language Arts Methodology Classes - The Beliefs, Attitudes and Practices Which were Observed by the Researcher

After transcribing the initial interview with Virginia the researcher made up a ditto of all the categories Virginia had created, and used that as a guide in observing during the class. During the

first two classes the transcription of the initial interview had not been completely finished, so for those classes the researcher wrote and tape recorded a "running record", writing down as many observations as possible in order as they occurred. After the category ditto had been completed, the observations from the first two classes were transferred into the categories.

Many of Virginia's behaviors could be matched perfectly with one of her categories. She had tea and coffee available for the students when they first arrived in class. This behavior fit into her category of humaneness as she described it. Those behaviors which seemed to fit a category were placed in a column next to the specific category (see Appendix B for sample ditto). Some behaviors seemed to overlap between categories or did not seem to be a perfect fit, but seemed pretty close. The behaviors happened quickly and the researcher had to make many instantaneous decisions, trying to be alert to all categories possible. The researcher used her best judgment in picking the category in which to place the behavior. Because of the complexity of behaviors, the rapidity by which they came and the large number of categories which needed to be considered, the researcher does know that not all behaviors were recorded. Of those recorded, some were not placed in the most appropriate category. Due to the many hours of observation and the familiarity of the researcher with Virginia and her course, hundreds of various behaviors were recorded and placed in appropriate categories. Much of the class was tape recorded so when the researcher rewrote her observational notes she also transcribed the

parts of the tapes which were relevant to this study and also placed them into suitable categories.

Some observations seemed to have no appropriate category already established into which they could fit. At that point the researcher created a new category. During informal or formal interview conversations the researcher would present the new category to Virginia. Sometimes Virginia would feel that one of her pre-established categories already included the new item. At other times she was very surprised to see that she had not mentioned the new category previously. An example of this happening was when the researcher noticed the integration of currriculum areas occurring in her classes and brought that category to Virginia's attention. Virginia was very surprised that she had not listed integration as a Specific Pedagogical category. "Isn't that interesting, that we didn't talk about it. Maybe because it was so obvious."

Virginia and the researcher established 29 categories of behaviors which she felt she tried to model to her undergraduates in her reading/language arts methods class. In the six, six-hour classes the researcher observed Virginia modeling behaviors from each of those 29 categories. Some behaviors she modeled constantly each class, while others were observed perhaps just once during each class.

Globals - observations. In this next section examples of the observed behaviors are presented. These examples are typical of all the other information gathered. They are presented in a way which helps recreate the actual happenings in the classroom.

A. Humaneness. A description of the classroom is crucial for this category. The undergraduates had been in the classroom at least three other times during orientation period, so they were already familiar with the basic layout. It was a second floor room with one full wall of windows which meant the room was always light. Another wall consisted mostly of blackboard with the program's beliefs posted above, and one wall consisted mostly of bulletin board with student art work from the semester before covering most of it. The final wall was filled with 10 foot tall storage cabinets. These cabinets housed many various supplies to be used by all the courses involved in the Elementary Education Program. The floor was concrete with vinyl over it. The students were in this classroom from 9 a.m.- 3 p.m. on Mondays and Fridays and were in a prepracticum school setting Tuesdays, Wednesdays and Thursdays.

In the classroom Virginia and graduate student Chuck had set up chairs, with no arms, in a horseshoe facing the blackboard. All the students could see each other when sitting. One chair, which Virginia sat in, was placed at the open end of the horseshoe, with its back to the blackboard. Over part of the board was posted a sheet of paper containing "Today's Agenda", with activities of the whole day and their starting times listed. Next to it was "Next Week's Schedule", similarly formatted. Under the blackboard was a small table on which were placed an electric hot water urn and teas, coffee, cups and spoons.

Virginia set up the environment as a way to model her category of

humaneness. For all six classes the chairs and tables were arranged in a horseshoe so all the students could see each other and be encouraged to talk with each other. The hot water table was set up each class. After the first class the students took turns setting up the table and also brought in snacks. Food and drink were a constant throughout the course.

Virginia's initial activity stressed interaction and respect for each other. She introduced a "name game" which had the objective of helping people learn each others' names. As she led the game Virginia emphasized "asking your neighbor for help" and "looking at each other".

With just the set up of the classroom, Virginia had established an environment which emphasized interaction and provided a comfortable, relaxed atmosphere. Her first activity then reinforced those same beliefs. Within the first five minutes of class the category of humaneness had been concretely modeled.

During the second, third and fifth classes visitors came. They were all introduced by Virginia and invited to get something to drink and eat and join whatever activity was taking place.

Virginia also changed the environment after receiving feedback from the students. Some students wanted a place on which to write, so Virginia and Chuck put long tables in an open-ended rectangle, with the open end toward the blackboard for the second class. For the third class they made a circle with chairs, but used chairs with writing arms on them this time.

One area which affected the sense of comfort in the class and which Virginia seemed to have little control over was the temperature. The classroom was noticeably cold when the observer walked in for the second class. 7 of the 15 students were wearing heavy sweaters or jackets at the beginning of class. By 10:10 the observer needed to get a cup of tea to hold, to warm up her hands. Many students quietly and loudly talked about the cold or physically tried to get warmer by bundling up, getting a hot drink or rubbing their hands. Virginia did acknowledge the cold, but the class went on as planned for the rest of the day. The third day of class was very warm and the classroom was hot. The heat seemed to affect people, but because Virginia, Chuck and some students had colds, it was hard to tell how the heat affected attitudes, compared to their own physical conditions. During the fifth class, when the room was uncomfortably hot Virginia did bring in an electric fan and adjusted it twice to try to accommodate peoples' needs.

Other ways humaneness was modeled in the class was through the encouraging of people to sit where they were comfortable when they worked in groups, and during the Sustained Silent Reading and Writing times. Students brought in cards and a cake for a surprise birthday party during lunch. Virginia signed the cards and sang with everyone else. Virginia's efforts at modeling humaneness were observed and appreciated. She never mentioned what type of atmosphere she was trying to model, but some students did pick up on it. One student wrote on her feedback sheet after the fifth class. "I think we've

built a safe, supportive community here."

B. Praise/positive response. Virginia also wanted people to feel safe in their participation in the class. She felt she tried to model responding in an accepting, supporting way to any question or response, to accept every answer not as correct, but as valid. Virginia had consciously calculated how she would respond to students and had a set of responses which she used in most discussions. "That's one way", That's a thought", "I'm so pleased you noticed", "Sure," "Ahah" and "Yes" are some of her phrases used to support peoples' contributions. Then she would ask for another possible answer, "What else?", support that response and ask for another answer. During each class Virginia would have at least 5 discussions in which she would use those and other similar phrases. Virginia's repetoire of responses included a wide range of comments. The researcher picked up no favorite phrases, such as "Great", on which she over-relied. "That's very astute of you", "What a good idea", "That's an excellent suggestion? and "You may want to use that...." are all phrases Virginia used to be fairly specific in her responses rather than giving generalized praise.

To respond in an accepting way to all responses can be difficult, yet Virginia did validate responses, although she might not have agreed with the student's idea. During a discussion of issues in children's books one student enthusiastically said that a certain book was great. The observer had at other times outside of class heard Virginia point out many of the book's failings in terms of content and issues and knew that she considered its only saving grace the fact that it was well

written. Yet her response to the student, "It certainly is well written", supported the student's contribution to the discussion, even though Virginia basically disagreed with the student. She also gave praise when students pointed out areas on which they felt they needed to work. A student did the Reading Aloud for the whole class and did not seem well prepared. Virginia talked to her about her reading in a private conversation the same day. Although Virginia had little about which to praise in terms of the reading, she did praise the student for analyzing her performance. "Great self-evaluation showed by you Mary Jane."

C. Listening/attending. Many behaviors in this category overlapped with the previous category. Virginia supported contributions and also demonstrated her listening/attending skills when she would write contributions on the board. When she asked the students to find strengths in a piece of child's writing projected on an overhead projector, Virginia then wrote on the board every answer suggested. Sometimes she would clarify or elaborate on an answer, but she wrote down what the students suggested, employing lots of eye contact and wait time while people thought. She wrote up at least ten suggestions.

While Chuck or one of the students presented an activity Virginia was always physically there in the room. She would be watching, leaning forward and nodding her head while they talked, or be participating in an active activity, seeming very involved in whatever they were doing and saying. For many of the small group discussions

Virginia would stop by each group and listen to what the students were saying, nod and then add a few comments of her own.

Often when students asked questions Virginia would engage the class to come up with possible answers or solutions. At the end of the discussion she would make sure she had looked to the questioner to see if she/he was satisfied and often asked, "Does that answer your question?"

Another conscious technique Virginia employed to model attending behavior was the use of "wait time". She would often wait up to 10 seconds after asking for another possible answer, before she would talk. Most often students would come up with other ideas during that time.

D. Doing things with quality. Virginia's conscious use of rich vocabulary was obvious throughout the course. She would use fairly unfamiliar words in her normal conversation and often would supply the meaning in the same sentence. "I have a caveat, a warning for you....", (about making judgments about writing just by looking at mechanical skills). At other times she just used words which most students did not use in general conversation: "That is an esoteric one", "...a synonym that is evocative...".

One activity which happened each class period and which Virginia suggested the students might want to use with children was "The Dessert Word". Virginia and Chuck brought words to class and encouraged the students to also bring in ones which were interesting and useful to share. "Hegemony", "salacious" and "salubrious" are examples which

they presented. The "Dessert Words" were challenging for the students.

Virginia always tried to show that she wanted to do her best work. She would ask if a word she had written on the board which she was unsure of was spelled correctly and would always change it if people told her it was incorrect. She corrected others' writing, in assignments and on feedback sheets. She only corrected, so the student would know the correct spelling, but she did not make any judgmental comments.

Virginia did not put grades on the students' work. She considered all work to be "in the process" even when handed in to her. She and Chuck would comment on the "rough draft" and return it to the student who would rework the draft and send it in again. This exchange might occur three or four times. Virginia felt that all students, with the support of the faculty, could produce quality, useful work.

E. The pulling together. At the end of many of the discussions Virginia would summarize what had previously been said. This action showed she had been listening to what the students had been saying. It also helped make sure that content was being understood.

F. Being evaluative without being punitive. The example from above of Virginia correcting feedback also fits in this category. Virginia's correction does say to the student that the spelling is "wrong", but her action does not carry judgment of character or punishment along with it. When Virginia evaluated without being punitive in class the situations sometimes did become uncomfortable.

The observer found that her own past experiences, when public evaluation often did contain negative judgment, affected her reactions to Virginia's comments. Often the students seemed to be feeling uncomfortable also. Jeanine came late to the first class and arrived at the end of the introductory "name game". Virginia acknowledged Jeanine as she came in by saying, "This is Jeanine. Too bad she missed it [the name game], but we'll have to help her [learn all our names]." Although there was no outward punishment for being late the observer sensed that Jeanine felt she was being put on the spot. Out of Virginia's view, she rolled her eyes, reddened a bit and sat down quickly. At another time Virginia noticed a student-made activity card which made no sense to her. She talked to the student about the card, and they came up with ways to change the card. Later, before the whole group, Virginia explained how she dealt with the student's card, as an example of what to do with unclear work. Although Virginia was not judgmental in the way she dealt with or talked about the student, the observer felt uncomfortable for the student and the student seemed a little flustered. There were other times when evaluation seemed well received. When Virginia modeled that behavior when dealing with the whole class together - "All your next steps are mechanical. How about some expressive ones?" -, or when she followed up immediately with a very positive response - "Say more, 'spelling' is too broad", (student elaborates), "Yes I do indeed know what you mean" - or when she evaluated an outside resource, the emotions in the situation seemed less of an obstruction.

G. Differing with people but respecting their perspective. Virginia had talked in the first interview about feeling that she needed to be very clear in modeling evaluation and she knew that people might also have trouble with her modeling of respectfully differing with people. This category seemed less threatening at times when Virginia pointed out how students were differing with each other and that was fine and she respected both their viewpoints. She also modeled disagreeing with the author of the text the students were using, and with other authors. Probably because of Virginia's innate authority in the classroom, whenever she, herself, differed with a student or graduate student the observer and perhaps the students felt there was evaluation happening.

H. I value questions, challenge. This category goes hand in hand with the previous two. By modeling questioning and challenging, Virginia hoped students would question and challenge also and help children learn to do that, too. At one point Virginia clearly stated her intentions to the whole class. "I'm going to try and model questioning what an authority says", she said as she disagreed with the author of the text. She praised the students for critiquing the teachers on the reading diagnosis tapes to which they were listening. A subtle way Virginia encouraged questioning was by asking if people had questions about a decision or assignment and then making sure she left plenty of time for the students to think about, formulate and ask their questions. Even when the questioning centered on her, Virginia encouraged its usage. Gary had written on his first feedback sheet

that although Virginia said she and Chuck were team teaching,

> it seemed like Virginia was running the class and that Chuck was assisting. I can see that it is difficult to team teach. Both instructors should give equal input and have equal time instructing or it won't seem like a team....[Chuck] may have put in just as much time, but Virginia seemed to be running the show.

During her individual conference the next week Virginia mentioned his questioning in terms of a "strength". "You observe well, and you do critical observation and you aren't afraid to ask questions which may not be comfortable ones - very important."

As Virginia described her categories of "I am a learner", "Self-evaluation" and "Taking criticism well" they were distinct ideas and yet often overlapped. In observing Virginia in class, the boundaries between the categories were also blurred.

I. I am a learner/enthusiasm for learning. In terms of content and information Virginia was obvious in her desire and excitement to know more words and more children's literature. She said "I love words" and then brought interesting words to share with the class every week. She often asked students if she could borrow an unfamiliar reference book or children's book about which they had written for an assignment. One area of being a learner which she constantly modeled throughout the course had to do with correct spelling. As she wrote on the board she would asked if truculent had two "c"s or if a word was spelled with "ent" or "ant". Virginia's being a learner in terms of her interactions with others merged with her category of self-evaluation.

J. Self-evaluation. When the researcher introduced the study to

the whole class, she explained that the study would not be an evaluation of Virginia or the students. Virginia then said, "If truth be told though, it is evaluation for me. I'm planning on using it that way. I want as much feedback as I can possibly get about whether or not I am doing what I think I am doing." So, although the researcher explicitly said she was not evaluating, Virginia planned very consciously to use the information gathered for her own professional growth. Also during that class Virginia made some self-critical statements indicating she had thought about and evaluated herself as a teacher. She let the students know that she was a "not too good bookkeeper" and "bad at keeping time".

After the the third class, in an informal conversation with Chuck and the researcher, Virginia was very self-reflective and expressed things she thought went well, "I think we accomplished our objectives" and things about which she had concern, "I think that I dominated too much again". Sometimes, right while she was in the middle of a discussion, Virginia would verbalize her instantaneous assessment of her teaching at that moment. "This list is terrible", "I really don't mean to sound preachy".

K. Taking criticism well. Perhaps because Virginia is used to self-evaluation and is willing to criticize herself and does have self-confidence, she is also able to hear others' criticism as well. Virginia encouraged the students verbally, to give her feedback and question and challenge her, and the students did. Usually Virginia was very open in receiving criticism. In a conference a student stated

that she thought they needed to have children in class with whom to work and that the class seemed like a "waste" to her. Virginia replied that she totally agreed with the student's point. Then she explained how having a child there would not be valid either.

In a feedback sheet one student criticized her writing down ideas on the board as Chuck and students were discussing them. He found that action distracting. Virginia wrote back, "Sorry, I thought it would be helpful." Many times, as the previous examples illustrate, Virginia seemed to hear or understand the criticism and acknowledge it and then explained her rationale for doing what she had done. Often times Virginia would ask students what they would suggest as a remedy for their concerns.

L. Putting priorities in action. The observer saw this category as a way for Virginia to keep working on using modeling in her teaching. She set the length of class to correspond to an elementary day, she read aloud, introduced word challenges, tried to use different modes of learning to teach information and to have many materials from which the students could choose. She met individually with each student in a conference at least once and had individual written dialogue with all students on their feedback sheets and assignments. The vast majority of Virginia's pedagogical categories which she wanted to model were observed by the researcher during the semester.

M. A natural way of behaving/spontaneity. Virginia has consciously tried to model her beliefs, attitudes and practices for so many years that some of her behaviors are just part of her natural way

of behaving. The observer had trouble finding many unconscious, noncalculated behaviors, and yet, Virginia's way of behaving did not seem controlled or lacking in spontaneity.

N. Being a person as well as a teacher. At different times during the semester Virginia told personal stories about her family and growing up. This category was introduced by the researcher because those stories seemed to show a different side of Virginia. The stories struck some students. After a class in which Virginia had told a personal story, Trinka wrote on her feedback sheet, "I think it's an excellent aspect for a teacher to relate her lesson to her own family, i.e. mother and stepmother relationship. Good modeling." When the researcher suggested this category Virginia felt that it was not totally necessary. She described the category as "being willing to share one's own life and mistakes, being a person." She also thought that "it is...part of my style and I'd hate to force people to have that as the same style."

Pedagogicals - observations. These observations are divided into the same sections as Virginia designated, principles (areas) and specific strategies or techniques.

A. Principles (areas). While the global categories were sometimes hard to document because of their being general and overlapping, the pedagogical categories were easier to notice and seemed to clearly fit into their designated category.

1. Active participation in own learning/shared decision-making.

Students in Virginia's class certainly were not treated as if they were passive vessels into which she poured concepts and facts. They were actively engaged in discussions and activities during most of the classes.

Virginia did talk a lot and her most often used mode of teaching was lecture/discussion. But, although the students sat for long periods of time during the lecture/discussions, Virginia constantly pulled them verbally, or at least mentally, into active participation. Students would ask questions and Virginia would turn the questions right back to the group to come up with answers together. Her asking for another way, another solution, "what else?", forced people to interact with the ideas. Virginia was so faithful to this technique of pulling people in the conversation that at times it felt as if students were tired of the format, but not the actual interaction.

Virginia had a variety of activities which involved the students physically in their learning. She had them do a language experience activity involving a leaf and writing a cinquaine - "We'll model some things we can do with leaves." They interacted with children's taped readings, activities set up in learning centers and creating their own learning centers. One student led a movement activity in which everyone, including the faculty, participated. They were encouraged to think about each class and reflect on what they had learned.

Shared decision-making was encouraged when Virginia would ask if a group wanted to go on with what they had been planning, or wanted to change their emphasis. Virginia checked in to find out how much time

groups needed to finish their work and then changed the schedule accordingly.

2. Building on strengths. Virginia modeled belief this concretely in two ways. The first dealt with analyzing children's work. Whenever Virginia analyzed, with the class, a piece of children's writing or a tape of a child reading, she always made sure the students focused on and listed the strengths they noticed. Then they focused on what needed more work. For the tape recording the students made for one of their assignments, they were asked to also first list strengths, then "next steps". Virginia also modeled starting with strengths when she had conferences with the students. Usually first, but always at some point in the conference, Virginia and the student made a list of the student's strengths in terms of that course or as a teacher, or perhaps, working with people in general.

3. Feedback/interaction. During every class students wrote feedback sheets. The kinds of remarks suggested by Virginia as appropriate included; " I learned statements, reactions to ideas, reactions to discussion on somebody else's part,...reactions to activities, questions, I wish statements, next time could we please..., why in the world. She certainly invited a variety of responses and different students responded in different ways. If Virginia did not receive a sheet from a student she would get back to the student to see what had happened. The sheets were a vehicle for dialogue; Virginia and Chuck always wrote back to every student, and returned them to the students' boxes before the next class. Sometimes Virginia would

suggest that the student come talk about the question or issues she/he had raised on the sheet, sometimes she would act on a suggestion - one student suggested doing more movement in class. Virginia talked with her, and the end result was the student leading the whole class in a movement activity which tied in with the plans for a future class.

Virginia also demonstrated her belief in feedback/interaction through her individual conferences with people, finding out how they were doing and what they needed, and through her dialogue with people on their homework assignments.

A couple of times Virginia invited verbal feedback, going around the circle having students make "what did I learn in school today" or "I learned..." or "what in the world?..." statements. On the last day of class Virginia asked the class for feedback about the whole course, and one student said, "I got feedback about myself on the feedback sheets and in the conference and that was very helpful."

4. Individualized attention. Virginia had set up with the conferences an automatic way to give individualized attention to each student at some point during the course. She and Chuck each had a conference with each student. Other than through the conferences and the feedback sheets, the researcher saw little individualized attention given to the students during the first two classes. But after that time she saw many occurrences of Virginia giving individualized attention; finding a specific book for a small group, suggesting an extra conference for a student who was feeling frustrated, giving the same student a hug because that seemed more needed, and giving a

student extra praise for his idea in front of the whole group after sensing that some people thought, perhaps, that he rarely had a good idea. Possibly because of the need for time to get to know the students and their needs, Virginia modeled this behavior more during the second part of the course.

5. Self-direction. Virginia did have the students choose what books they would analyze and what types of lesson plan they would create for their assignments. They also had no due dates and had to create their own time lines and schedule. Within the class, in some activities they choose how and with what materials they wanted to proceed. There were a variety of activity cards at the learning centers from which they chose and then each card offered a range of possible ways to proceed.

Virginia's motto of "if a student can do it, the teacher shouldn't" did shape many of the interactions she had and activities she presented. Students did some of the reading aloud times, they were in charge of the book club ordering, and they were in charge of snacks and hot drinks. One student was having great trouble getting work done and said she needed due dates. Virginia then asked her when her diagnosis would be done, helping the student set her own deadlines.

Once Virginia told the students to take a ten minute break and then come back with their partners and decide the emphasis of the publisher's lesson they were analyzing and the emphasis of their changes. She called them back together after 25 minutes and found that no group had met. Her directions may have been unclear, but Virginia

just assumed that if the students took a 25 minute break, they must have needed it. She then just rearranged her schedule and continued on.

6. Growth takes time. Virginia told the students not to expect that when they had done an assignment that it was finished. She expected that learning how to write a lesson plan or analyze a children's book would take time and she wanted them to know that. Virginia did comment upon and return for reworking almost all of the assignments turned in to her.

Probably the biggest demonstration of this belief on Virginia's part manifested itself in her lack of exams or other types of tests which are used to measure how much a student has learned of the materials taught in a certain amount of time.

B. Specific pedagogies - observations. 1. Reading aloud. Virginia, Chuck or a student started each class by reading aloud some children's literature. That practice was one of the "rituals", a specific technique which Virginia felt was so important for students to see being modeled every week.

2. Non-permanent groups. Excluding the first class, during which the students stayed in the large group the whole day, all other classes had times when students chose their own groups or pairs in which to analyze a tape, or publisher's manual, discuss issues in children's literature or put together a learning center. All these groups did dissolve after the task was completed.

3. Self-selection. In every class some self-selection happened. When Sustained Silent Reading and Writing occurred each student chose whatever she or he wanted to read and she or he chose on what topic she/he wanted to write (i.e. a letter,journal, story). They chose at which learning centers they wanted to work and what learning centers they wanted to develop and what materials they wanted to use in establishing it. They chose the book group they wanted to join, the publisher's manual they wanted to analyze, where they wanted to sit in the big groups and where they wanted to work as pairs. They chose the books they wanted to analyze and the types of lesson plans they wanted to create for their homework assignments.

4. Using literature as a base in a reading program. Virginia's emphasis certainly was not on using publishers' programs to teach reading. The text she used stressed using literature in teaching reading. One class and one homework assignment dealt with publishers' manuals, while the rest of the classes dealt with analyzing and working with whatever children were reading and stressing the reading/writing connection.

5. Attention to substantive skills. When Virginia analyzed reading and writing examples with the class she always made sure that the students found strengths and "next steps" in the substantive areas as well as the mechanical ones. She pointed out which were which in a list the class had created and she had written on the board. She required that students critically look at issues in children's books, and spent parts of two classes on discussing issues in books. One book

the students were suggested to read was Virginia's book on issues in children's literature.

6. Construction of curriculum which has some connection with children. Virginia approached this category from two different angles. The first one centered on starting with elementary children and building curriculum around them, i.e. using actual children's readings and writings to analyze to learn to diagnosis strengths and "next steps", and to use as a basis for writing a lesson plan. The second approach had to do with Virginia starting with the undergraduates' interests and building curriculum around that. The class talked about the language experience approach, and Virginia stimulated talk about a current event which the undergraduates were interested in and used that as an example of how to do the same type of language experience activity with children. Although many of Virginia's lecture/discussions were self-contained units which she had presented many times over the years, she introduced many of the ideas in response to the needs and questions of the students during the classes.

7. Use of many, many materials. When the students walked into class the first day they saw one table full of at least 40 attractively displayed children's books and texts, and eight to ten cards suggesting different activities to do with the books (i.e. categorize the books, read and compare two books in certain ways), and another table with more activity cards and art materials to integrate art, writing and literature. These materials were available during the conference time

of 25 minutes unless the student was in a conference with either Virginia or Chuck and during the learning center time of 20 minutes, in the afternoon. Virginia and Chuck had scheduled at least one and a half hours for students to use the materials, but because other parts of the schedule ran over, they cut down on this time.

Many of the same books and materials were available during the second class which the students could choose to work with for the hour lunch/conference time. During that time very few (less than a third) of the students used any of the materials.

For the third class most of the same books were out again, but the books looked as if they were just put on the table, none were standing and many were piled three or four books deep. There were samples of children's writing and letter writing activities on another table and a tape recorder and tapes for practicing reading diagnosis, plus a carton of chart books on a third table. These materials were available to use during the hour lunch/conference time and seven of fourteen used the materials at some point during that time.

By the fourth week the observer had a sense that, although materials were still being brought in for students to use, less time was being spent on the how the materials were arranged and how they were being introduced to the students. Each week fewer students used the materials and only one student was observed using any of the materials during the fourth week. One student looked at the carton of chart books, opened one book, said "not today" and went to write on his feedback sheet. Another student asked a friend, "Is this a work center

over here?" Her friend replied that she did not know and they continued eating their lunches. The materials themselves did not seem to invite the students to use them, and little introduction of the materials by Virginia and Chuck seemed evident to the observer. Virginia and Chuck did bring a multitude of publishers' manuals for students to use in their critical analyses, but because of the lack of different publishers represented by the materials, Virginia changed one of the homework assignments.

During the 5th class Virginia had brought in 25 - 30 children's books and put them on a table plus had stacks of other books on a cart. Virginia had the students use those books when they broke into small groups to discuss different issues in children's literature. For the construction of the learning centers, Chuck brought in magazines and newspapers and the students were reminded of the six cabinets of art supplies there in the room and the library in the room next door.

As the students set up their own learning centers during the last class they put out an array of materials and activities for others to do and for an hour all students explored the three different learning centers which had been set up.

8. Many modes of learning. The major mode of instruction during the course was lecture/discussion. In the first class five of the six hours were lecture/discussion, some of that time included the explanation and expectation of the course. For all classes but one Virginia used lecture/discussion for over half the six hours. Virginia and Chuck varied the activities used within the lecture/discussions.

Sometimes the students interacted with scripts and listened to tapes, sometimes they listened to children's books and children's writing. Virginia and Chuck made use of an overhead projector, a film and slides. Throughout these times the students were still sitting in the large group with Virginia and Chuck leading the discussion. The hour lunch/conference time gave people the opportunity to engage in other modes of learning, including one on one in a conference, working with materials in the learning centers and doing reflective thinking while writing feedback sheets. During the other hours the students were in small groups discussing, analyzing, or planning and creating learning centers. The big group did a movement activity together once, Sustained Silent Reading and Writing four of the six classes and some physically active language experience lessons.

The heavy usage of lecture/discussion did create some dissatisfaction with the students. During the break during the first class the observer heard some students commenting in the restroom about needing to stretch. By the end of the semester the comments had changed to complaints, and some students felt that Virginia and Chuck talked too much of the class and/or they wished they could do more things which involved hands-on, moving activities.

9. Peer interaction. During the big group lecture/discussion and in the other activities during the course, peer interaction seemed to be an important goal. In the large group Virginia would often turn a question posed to her back to the group to answer or ponder. The "name game", setting up the chairs so people faced each other and checking to

see if the class had a list of everyone's address and phone number are examples of ways in which Virginia encouraged peer interaction on the first day. Students were also encouraged to work in pairs or small groups for the activities in class. Virginia mentioned throughout the semester that working on assignments together was very acceptable. Student took the initiative and suggested books to the whole group and gave feedback to each other about their learning centers. Evidence that the peer interaction happened was that the students became a very close knit group; small groups would eat lunch together and spend time outside of class together and at least two group parties, outside of class, were held. (The faculty were invited also.) Some students recognized the importance of peer interaction for them and wrote about it on their feedback sheets. One student even saw it as a behavior to be used in her classroom.

> I worked with Julie today and she brought up an important point "Teaching is not a solo mission". This is very true and I need to be reminded of it every so often. I think working with partners within this class helps me to remember this.

10. Integration. When the researcher suggested this category after observing in Virginia classroom. Virginia thought that perhaps she had forgotten it as a category because it came so automatically for her. Observations of her class seemed to support this idea. She did not spend a certain number of separate days on teaching reading, so many on writing, so many on speaking, etc., but interwove those curriculum areas all together. Although Virginia presented a workshop specifically in reading diagnosis and reading skills, she and Chuck

also talked about the reading/writing connection, presented the language experience approach to learning to read and write (learning to read and write simultaneously using the child's own experiences as a basis for the learning) and had examples in the learning centers of activities which involved reading and the language arts. Some of the activity cards also involved other curriculum areas such as the multi-arts. The movement activity led by a student incorporated, as Virginia's suggestion, issues presented in children's literature. Chuck's examples of activity cards he had for learning centers which he had used with children included ones dealing with science and art.

"Next step" categories - observations. As the researcher observed Virginia's class she was struck at the depth of Virginia's self-evaluation in creating her "next step" categories. All the behaviors the researcher observed fell into a category which Virginia had created. Although Virginia said she wished she did not model these behaviors, she knew that she sometimes did unconsciously model them. She was conscious of the categories of behaviors, but most often not conscious of modeling a specific behavior at a specific time.

A. Being geniunely interested in people. Virginia felt she was good at not letting her true feelings about students show through to the students. The observer had no sense about how Virginia felt about specific students. She attended to their questions and concerns raised in class and on written work. The only time the possibility of Virginia not being geniunely interested in the students arose was during the last class. The students work for a long time on their

learning centers and then Virginia viewed their centers quickly and was not at the centers long enough to read all the activity suggestions or give many people any feedback.

B. I intrude my opinions/giving people advice. This category and the next one of "Immediately correcting/interrupting" are the "next step" categories from which the observer saw Virginia displaying the most behaviors. The observer felt there was a fine line between the category of "Differing with people, but respecting their perspective", which Virginia wanted to model and the intrusion of opinions and giving advice. The fact that Virginia was The Authority in the class and also spoke with a lot of self-confidence put her in a different position when offering opinions; hers seemed to be more heavily weighted. So, although Virginia may have been respecting others' perspectives, because her way seemed so "right" other peoples' perspectives seemed less "right". A student made the comment that he liked the movie "Sounder" better than the book. Virginia commented that she liked them both. Although Virginia just stated her opinion, because she said it immediately after the student had spoken and with such authority, the observer felt the student's opinion was not considered as important. The tone of her voice and the specific words she used seemed to be central to this category. Virginia tried to use words which would encourage choice, not directed thinking. The observer heard Virginia catch herself at least twice starting to say "should" to the students and switching the word to "could", going from her giving "the way" to suggesting one of many ways. But sometimes Virginia's tone of voice

seemed to suggest "the way" even though she was using words which usually imply choice, "you might think about..." or "you might try...."

Virginia often offered people advice during the course, usually when they asked for it or after she supported what the students were saying before she suggested an idea. Her "giving people advice" was taken as a negative when she offered it without an invitation and without a supportive statement first. As she looked at an activity card in one learning center she turned to a student and said, "Did you write this Jeanine?...I have a problem with it. Why would you write a letter about....?" Jeanine seemed flustered and said "I forgot what I was going to do with it." Virginia's beliefs of positive responses and building on strengths were not evident at that time.

C. Immediately correcting/interrupting. In some ways the categories overlap. The times when Virginia seemed to be intruding her opinion most often came when she spoke immediately after they had spoken or perhaps even before they had finished speaking. Timing was critical in both categories. "No, not peer teach, peer respond," she said to a student the moment after he had said it. The student's response, "Ok, excuse me", sounded like he felt he was "wrong", and there definitely was one "right" way. During the vast majority of verbal interactions Virginia had with students she did wait until they had finished speaking and did not immediately correct them or intrude her opinion. The researcher even observed several times Virginia catching herself just before correcting a student. But the two or

three times she did correct or interrupt made the observer start to question whether Virginia really did want to hear the the students' questions and ideas.

D. Dominating/overwhelming. Virginia developed this category after the third class, when she was concerned when she and Chuck were teaching that, "I didn't overpower and come in when he wanted to." The observer did notice Virginia interrupting Chuck a few times, and when he was the one in charge of a lecture/discussion she would come in with ideas or would question something he had just said. When she was in charge of a lecture/discussion he contributed, but much less often than she did when he was in charge. Because of her experience and her more visibly energetic teaching style the observer expected Virginia to contribute more. Again, as with the two previous categories, the ways in which Virginia contributed or offered her opinions were the concern, not that she did contribute. As she referred in class to a time when she questioned something Chuck had said, she even said, "I pounced on Chuck before when he said...." She saw her action as a pounce rather than as a question, and so did the observer.

E. Scheduling and keeping neat. Virginia viewed keeping neat as a "next step" for which she would strive eternally, but did not consider it so important that a lot of time and energy needed to be spent trying to model it now. Virginia did have most of her equipment and materials in the class on time and they were organized in accessible and useful ways. Examples of lack of neatness were times when books were piled up on carts and tables or in boxes. They may

have been there for the students' use, but the energy needed to get to and sort through them seemed to restrict their use. Virginia did work on her scheduling in class. Class did start within three minutes of 9 a.m. each week, and ended at 3 p.m. Within that time frame Virginia felt that she had been flexible in letting activities go longer than had been anticipated and rearranging the schedule accordingly. She and Chuck did let the creating of learning centers go much longer than they had planned because students needed extra time. Sometimes lecture/discussion topics were incorporated into other times and sometimes Sustained Silent Writing and Reading and times to use the learning centers were dropped altogether.

The students frequently said aloud and in feedback sheets that they wished the text books had been available sooner and in greater supply.

F. Trying to cover the material. The researcher established this category due to observations during the second class. During that class people were cold. At 10:02, after all had been sitting for one hour Virginia said that they would stop in a couple of minutes. After that she read and analyzed different parts of the text book. A few students turned with her to the parts of the book about which she was talking. She was talking quickly and the observer had trouble digesting what she was saying. At 10:10 she looked at the clock and then decided to go quickly through a piece of another tape. At that point people gave her non-verbal cues that they were uncomfortably cold. She and the class talked about being cold while she passed

scripts to go with another tape. At 10:20 the tape or tape recorder did not work and, although she wanted to continue, Virginia gave the class a break time. The observer felt that the class and the observer were ready for the break the 18 minutes before. After class that day one student told the researcher that Virginia "talks so much, she lost me...so much was going on."

Virginia tried to "cover material" in a few of the other classes. At those times she would give the class a lot of information and though she would ask for their input by asking "what else?", she sometimes would ask her next "what else?" at the split second after or sometimes during the previous student's reply. When the researcher listened to the tapes of those specific lecture/discussions, Virginia was talking more rapidly than she usually did during lecture/discussions.

Perceptions of the Undergraduate Students of Virginia's Modeling

The first part of this case study presented the beliefs, attitudes and practices which Virginia felt she consciously tried to model in her methodology class. The observations of the researcher documented behaviors indicating that Virginia, by and large, did model her professed beliefs, attitudes and practices in her class.

Virginia has deeply and thoroughly analyzed her teaching and her use of modeling. The observer also has thought about the concept of modeling and brought with her to the observations much experience at

looking at and analyzing modeling behaviors. Besides needing to be coherent with her own beliefs, Virginia consciously models because she feels that undergraduates learn more effectively about teaching by her showing as well as telling them about how to teach. To find out whether modeling is an effective teaching strategy in methodology courses the perceptions of the students are needed.

Central to any study about modeling in teacher education are the perceptions of the undergraduates. What do the undergraduates perceive and understand about modeling and their education? Virginia has her views on what she is modeling and the researcher has made observations about Virginia's modeling. The next part of this case study looks at the undergraduates' perceptions of modeling in general and Virginia's conscious modeling, specifically. This section reviews the methodology used in gathering the students' perceptions, briefly describes the undergraduates in the study, presents their perceptions of Virginia's categories and presents their own categories of behaviors modeled by Virginia and looks at the incongruencies the students felt there existed in some of Virginia's modeling. After this case study and Henry's case study have been presented, the undergraduates' general impressions of and ideas about modeling in teacher education are documented.

Review of the Methodology Used in the Case Study. Perceptions were gathered from the undergraduates in two major ways, through informal and formal interviews. The information gained from most of the students happened spontaneously, in class, through the

taping/observations or in casual conversations during breaks or before or after class. Four students also participated in three in-depth formal interviews. The first set of in-depth interviews took place within the week right after the first Reading/Language Arts class. The second set of interviews occurred mid-semester, but after the Reading/Language Arts class was completed. The final interviews transpired at the end of the semester. The interviews focused on both Virginia and Henry's classes.

The researcher also did a single interview with three undergraduates who had taken both methodology courses the spring before and who were in the midst of their student teaching experiences.

The researcher consciously tried to create an atmosphere of safety and openness in the interviews and felt the students enjoyed and looked forward to the interviews.

The initial interview guide was structured by the research questions presented in Chapter I, pp. 10 & 11. They consisted of open-ended questions to stimulate the students to consider what beliefs, attitudes and practices the faculty were trying to model, and to talk about what modeling meant to them and if and in what ways they had thought about its use in their learning.

The researcher decided after the first interview that a few of the questions were asking the students to read the faculty members' minds. A question such as "What do you think are the faculty members' reasons for consciously attempting to use modeling in their courses?" generated many ideas about modeling and about the faculty, but also led

to some confusion on the part of the students. The second and third interviews focused in on specific beliefs, attitudes and practices the students felt they had learned from the faculty and how they learned them. This emphasis seemed to give the students more control over their thoughts and the interview; they understood the question and it was more manageable.

Brief Portraits of the Students Participating in the Study. 1. Learning styles. All the students in the study had been exposed to material about different styles of learning and many of them talked about their learning styles at some point during the study. Three of the four methodology students and one student teacher talked about learning best by either doing things (hands-on exploration) and/or watching (visual learning). This may have been a reason why they were so enthusiastic about the fact that Virginia and Henry used modeling, which is based on observational learning, and that they modeled so many activities which involved hands-on experiences. The class as a whole was a positive, energetic group and seemed to feel very comfortable learning in the ways Virginia and Henry taught and wanted to try to teach children in those ways.

2. Interview styles. Often the students would mention in one long thought four or five beliefs or practices they had seen modeled. The researcher got back to some of the ideas, but sometimes was not able to follow up on some ideas.

Each student had his or her own particular style of talking about ideas and perceptions.

Gary was very literal and straight forward with his ideas and examples. Since the researcher's topic was about modeling Gary tried to relate whatever he talked about to modeling. At first the researcher felt Gary was looking to give "right answers", but by the second and third interview he seemed more relaxed about his comments.

Julie spent much less time talking about specific modeling behaviors than the other students. She talked about abstracts, exploring the concept of modeling and the idea of incongruency.

Beth had many ideas, but often they were articulated so quickly and closely together that they came as a "stream of consciousness". She was always positive about anything about which she talked.

Trinka was very perceptive about people. She watched the faculty closely and had ideas about the reasons why they did what they did.

Undergraduates perceptions of the categories created by Virginia. Unlike the observer, students did not observe, or perhaps, just did not talk about all the categories which Virginia created. The researcher could have provided the students with the categories Virginia had developed and then had them check off or list the behaviors they saw. Probably using that method students would have spoken about more of the categories. But because the researcher wanted the undergraduates perceptions to come from their reality, in their own words, the categories were never presented to the students. If the students created categories themselves, the researcher would refer back to those categories in later interviews.

Of the 29 categories created by Virginia students mentioned

behaviors in 19 of the categories. The list of Virginia's categories appears in Figure 2 below, with the number of comments made by students in the course and by the student teachers recorded in columns next to each category. Because the student teachers were formally interviewed only once, and because they were looking back to the previous semester as a whole, the number of their observations is not as significant as whether they mentioned the category at all. The numbers in the columns represent the times the undergraduates mentioned seeing behaviors within the categories. The numbers do not represent the times the students mentioned the behavior and said they thought it was a modeled behavior. Below the table the specific perceptions of individual categories are presented. Later in this section the students' perceptions of Virginia's "next steps" categories are presented.

Globals - students' perceptions. Because many of the global categories were emmeshed with Virginia's view of the world and were traits she wanted to model as a person as well as a teacher, she tended to articulate less about them. She would tell students that she was using a specific technique, such as reading aloud, or would comment on one of the program's principles, which were posted above the blackboard. But rarely did Virginia verbalize about her global categories. In most cases when she did talk about a global, directly or indirectly, students mentioned noticing behaviors in those categories.

FIGURE 2

Virginia's Categories and Number of Student Observations of Behaviors in Those Categories

Virginia's Category	Number of Student Observations	Number of Student teacher Observations
Globals		
1. Humaneness	4	-
2. Praise/positive responses	2	1
3. Listening/attending	8	1
4. Doing things with quality	-	-
5. The pulling together	-	-
6. Evaluative without being punitive	2	-
7. Differing but respecting other perspectives	-	-
8. I value questions, value challenge	1	-
9. I am a learner/enthusiasm for learning	2	1
10. Self-evaluation	-	-
11. Taking criticism well	-	-
12. Putting priorities into action	-	-
13. A natural way of behaving	1	-
Pedagogical Principles (areas)		
1. Active participation/shared decision-making	3	1
2. Building on strengths	1	-
3. Feedback/interaction	4	-
4. Individualized attention	2	1
5. Self-direction	14	4
6. Growth takes time	-	-
Pedagogical Specifics		
1. Reading aloud	4	2
2. Non-permanent groups	-	-
3. Self-selection	2	-
4. Using literature as a base for a reading program	1	-
5. Attention to substantive skills	-	1
6. Construction of curriculum that has some connection to children	-	-
7. Use of many, many materials	2	-
8. Many modes of learning	2	-
9. Peer interaction	1	-
10. Integration	-	-

4. Doing things with quality. This category translated for some students into having high expectations and is discussed under the "next step" category the students created, called "Too high or unclear expectations", see page 158.

5. The pulling together, 9. Self-evaluation, 11. Taking criticism well, and 12. Putting priorities into action were all categories about which the students did not talk.

1. Humaneness. Virginia set up her environment to help induce the feeling of humaneness and the students noticed during the first class that feeling of safety and how it was created.

Gary was very struck by the hot drinks and snacks and felt she was modeling caring about students.

> The refreshments and coffee and things. I remember in kindergarten we had snacks, so she might be saying I'm going to have snacks for you guys, and you might want to have snack for your kids in the classroom. It makes it a more relaxing atmosphere; it is not just a structured classroom.

He was so surprised by this atmosphere that he questioned Virginia about it during class. "Do you think that is a good thing to do with your students in a classroom?....Is that part of your modeling?" Gary also noticed the set up of the chairs, deciding that she was "modeling a way of structuring the classroom that might work for us." When Gary mentioned the chair arrangement he saw it as a way for actively involving the students along with a way of establishing a relaxed environment.

Julie talked of the consideration shown between Virginia and

Chuck and saw those behaviors as ones to model all the time. When asked if she felt they were modeling so that the undergraduates would be considerate of children in their classrooms, she said, "Definitely, definitely. I think it is outside of the classrooms, you know, just on the street. It is a daily thing, you have to be considerate of other people." Julie, along with Virginia, saw that belief being a global one. Trinka talked about the snacks and the set-up of the chairs, but did not mention thinking that Virginia was modeling those practices.

2. Praise/positive responses. One student teacher, Katy, mentioned that Virginia gave her a positive comment which was very important to Katy, but Katy spoke of that comment outside of the specific context of modeling.

Julie clearly felt Virginia was modeling praise in an appropriate way.

> Of course there are all those positives, although... to me she doesn't seem so conscious, over sensitive, about making sure she says good, good, good. She does, she'll nod some times, which is nice. I get really put off sometimes by people who always try too hard to say something good when people respond. It seems, after a while, to me, it just gets phoney.

Julie also saw Virginia's positive comments on feedback sheets as modeling.

3. Listening/attending. Virginia did say a few times during the course that there were no right answers for most of her questions. All the students in the course and one student teacher mentioned seeing or experiencing Virginia's interest in and acceptance of their

contributions to class, but only one mentioned that she thought that Virginia was modeling. Trinka felt that

> She is modeling that...she accepts all our ideas. She doesn't give any negative responses to, she welcomes whatever we have to say, whether it be relevant or irrelevant, whether it be something off the wall, or just a joke or something which adds so much meaning to the conversation.

The other students may have made the connection in their own minds that what they observed Virginia doing - "listening to us", "using eye contact" "bending down to talk with us" and "wait time" - she was consciously doing as a model. The behaviors were clearly obvious to them while the category of listening/attending may not have been.

One student teacher thought Virginia tried to model accepting all answers as valid, but saw many occasions when this did not happen. Her thoughts are presented when talking about Virginia's next steps later in this section.

6. Evaluative without being punitive. Beth hated raising her hand in school because she was afraid the teachers would criticize whatever she said. During the first class with Virginia she spoke and,

> I don't know what I said...but I felt that she first jumped out at me, and I said, oh no, I'm not going to say anything again, but then she kind of made me think why it wouldn't be right, wouldn't make any specific effects on anything. At first, I thought, I'm going to get tensed up but then, just by her talking, she wasn't abrupt, she explained herself and she gave me her opinion and kind of made me think of the answer I had given and it could be something else.

Beth did not feel "put down" or punished, but did feel what she had said had been evaluated. As evidenced here, there exists a fine line

between this category and a few of Virginia's "next step" categories, "intruding my opinions" and "domineering/overwhelming". As Beth talked about this incident she said that she had found in teaching that "perfect wording" was important. Without "perfect wording" in answering students, the students' feelings could get hurt. Julie also mentioned seeing Virginia evaluate without being punitive with regards to written assignments.

8. I value questions, value challenge. Trinka noticed that Virginia did modeling questioning authority and mentioned that Virginia also specifically noted at one point that she was modeling this behavior.

9. I am a learner/enthusiasm for learning. None of the students mentioned being aware of Virginia's enthusiasm for learning, but one student teacher was affected by Virginia's enthusiasm for learning and using new words. Katy remembered vividly Virginia's modeling of her love of words.

Virginia felt she tried to show being a learner and self-evaluation through admitting mistakes she made. Two students mentioned noticing Virginia modeling that.

Trinka did notice Virginia admitting a mistake. She said that Virginia had given a set of unclear directions, realized that they were unclear and explained the directions again after admitting they were very unclear. Trinka felt that was great modeling.

Julie gave Virginia written feedback about a discussion in class and Virginia wrote back saying she had tried to demonstrate a skilled

and failed. This surprised Julie because "in a lot of ways that she came across to me I felt like there was no room for errors, even though we are supposed to believe that teachers are fallible and we make mistakes. But with her style I never felt there was any room for mistakes." Julie felt a lot better about Virginia's "fallibility" after that interaction.

The other comments by the students about this category had to do with wishing Virginia would model behaviors about admitting mistakes and wanting to learn more, more often. These comments are presented in the "next step" section.

10. A natural way of behaving. Julie noticed that Virginia's telling of personal stories helped "people feel this is a real person, not just a teacher. This is a real person who is trying to share real things with me." When asked if she thought Virginia wanted the undergraduates to also share this way of behaving Julie was not sure. She felt that sharing feelings was important to her, and, perhaps, her concerns were influencing what she saw in the faculty. "I don't know if what I am seeing in them is what they want."

Pedagogicals - students' perceptions.

The Principles - students' perceptions. With one exception, all of the pedagogical principles were mentioned by at least one student. The category of "Growth takes time" was not mentioned by any student.

1. Active participation/shared decision-making. Katy remembers Virginia pulling the students' input into discussions, so they were

actively involved in the lecture/discussions. Gary also felt she "encouraged participation by asking questions, trying to get us to think."

Julie was sure Virginia wanted the preservice teachers to have children be "doing and doing" in their classrooms because she had the undergraduates doing by using the learning centers.

Gary talked a lot in his first interview about how Virginia set up the room to encourage learning. "It is a model. It is hard to explain. Because we would remember better and learn more from it if we actually saw it and participated, rather than just hearing it." After he said this he glanced up at the beliefs of the program posted above the blackboard (this interview took place in the empty classroom) and decided that what he was talking about was Active Involvement. He felt Virginia modeled that "by showing us that we can get involved too. She gets us involved and we see that it works and we might bring it into our classrooms and get the kids into it." His examples of their active involvement were 1. being involved in the learning centers and 2. Virginia asking questions to involve them in discussions.

Two of the three student teachers said that they had learned about learning centers by seeing them and actually using them in Virginia's class. Although the students did not mention or were not aware of how Virginia's specific activity of learning centers comes from her belief of getting children actively involved in their own learning, they were aware that they had learned the specific pedagogy. During the semester the student teachers took the Reading/Language Arts

course more emphasis was placed on planning, setting up and using learning centers than during the semester of this study.

2. Building on strengths. Only Beth mentioned this category. She was conscious of Virginia's use of it during Beth's first conference with Virginia.

> She wants to know the strengths, "as many strengths as you can tell me", and then she didn't say what are your weaknesses. She said what do you want to build on, what do you think you want to work on? Not what have you failed in in the past.

3. Feedback/interaction. Beth was sure that Virginia wanted feedback, and she felt she learned ways to communicate with students from Virginia through the use of the feedback sheets and the mailboxes. She felt those techniques encouraged two-way communication between teacher and child, and the mailboxes encouraged communication between children.

Trinka also knew that she had learned about feedback through writing the feedback sheets and through participating in the conferences. She, like Beth, understood the concept well enough to know she wanted to find different ways to gather feedback from children. Perhaps one reason Trinka was searching for a variety of ways to gather feedback was because she had trouble at the end of the course of thinking of things to write on her feedback sheets to Virginia.

4. Individualized attention. Unlike Trinka, who saw conferences as a way for a teacher to receive feedback, Gary saw conferences as a

way to get to know children's individual needs. When the researcher asked him how he had learned that, he said through reading the text, the lectures and then as an "ahah" said, "she had [conferences]....I guess that was modeling to the class. During lunch period she had conferences. I didn't even think of that. Her conferences were modeling. That's interesting."

Beth saw the variety of books Virginia had at her learning center and realized that the undergraduates were not all interested in the same type of books and that different 4th graders would have different interests too and would be reading at different levels, and so variety was important. Beth said that during the first class she "didn't feel like sitting and doing something with a book...and there were art supplies on the other side of the room....I could create something." She felt her individual needs had been met and wanted to offer those choices to children too.

Katy's observation dealt with a personal interaction when Virginia helped with an individual concern Katy had. This interaction was important enough to remember and report six months later, but Katy did not mention thinking Virginia was consciously modeling attending to her individual needs.

5. Self-direction. This category had many observations, some tying the behaviors to modeling, others not. All the students in the course talked about this category and so did two of the three student teachers. Many of the observations fell under Virginia's motto, "if a student can do it, the teacher shouldn't". Virginia told the students

this was her motto during the first part of the first class. Soon after saying it, she said to Chuck, as he started to lower the shades while explaining about the upcoming slide presentations, "Somebody can pull down those shades I bet." Trinka picked up on the modeling in that situation and also felt Virginia modeled her motto when she had the students do clean up and bring in snack. She was also impressed when Virginia allowed a student to lead a movement activity for the whole class.

Like Trinka, Gary noticed the modeling of students doing clean-up. He saw having mailboxes as a way "to get kids to be responsible for handing in their own work and making sure assignments are in certain places".

Frank, one of the student teachers, saw Virginia "looking at her material and what needs to be done in reading as...technical...[needing lots of] direction...not really open for personal discovery." But as Frank talked about learning how to evaluate a reading series, he realized that Virginia did give the undergraduates more encouragement for self-direction than he had previously thought.

> Now that I say that, it is interesting, that it was basically [that] she gave us the opportunity to do our own...[have our own] feelings about those things, and just as long as we provided justification about how we felt about it...so, she did give us the opportunity to draw personal meaning.

At the center of the idea of giving students responsibility and choice is the notion of trusting students. Gary saw Virginia modeling trusting students when she trusted them to get coffee and snacks or go

out of the room when they needed to. Like Gary, Beth thought Virginia was trying to model trusting children by encouraging people to get snack whenever they needed it. Beth was not convinced that she would trust children in that way. She first wanted to be in a situation where children could choose when they wanted to go to the bathroom and see what happened there before she would try those strategies in her own classroom. Beth did feel trust herself when she was doing her Sustained Silent Reading and knew that no one was looking over her shoulder to see what she had chosen to read. Having an agenda was another strategy Beth saw which involved trusting and involving students.

> I think because she wants to show us that when we have a class that it is not necessarily true that we are the only ones who should know what is going on....It keeps other people involved with what you are planning.

Many of the students saw Virginia giving them responsibility in doing their own work for assignments. As Julie thought about the class after it was over she said,

> What Virginia's teaching was for me was starts, a lot of starts. Start you in motion. It is up to <u>you</u> to take it further, which wouldn't be the thinking like she wants it done her way....What she does is she gives you this beginning sentence and then it is up to you to write the essay to it. So she does put a lot of responsibility on you...

Julie then went on to give examples of how Virginia gave that "beginning sentence", how she set the criteria for the homework assignments, but let the students go their own way after that.

Beth remarked that they had to take a lot of initiative to find and read the text and set their own due dates for assignments. Beth was one of the four students who did schedule her time sufficiently to be able to complete the assignments before the class was over. She was able to direct herself enough to accomplish the work, so she was pleased with her initiative and liked the fact that Virginia demanded that initiative. Gary and Trinka, who had trouble setting their own due dates and getting the homework in, felt that Virginia had unclear or too high expectations. (see below under "next steps")

Like Beth, student teacher Katy saw the assignments as part of the category of self-direction. She had not scheduled herself the way Beth had, yet had analyzed the situation and drawn some of her own conclusions.

> As far as assignments went...it was interesting the way that she, it wasn't that we were graded, so no one was motivated by the grades, but there was never a question that people weren't going to get it done. She just said, these are your expectations, this is what need to be done. That was it. It's your responsibility folks, and do it. And there were no threats and you have to have it in by this due date, which is one of the reasons I had such a hard time doing it. All my life I've had a due date and a grade, and it was hard to get used to the fact that I wasn't going to have either....I think that was a real choice on her part. There is not going to be a due date, and you guys are college students and are going to be teachers soon.

Katy had decided how she was going to apply those same concepts of self-direction in her own teaching, and had even had a chance to try them during her student teaching experience.

Katy was very articulate about Virginia's belief in self-direction. She said that Virginia believed in and tried to model

a learner-centered classroom, where "the kids are number one and that the kids can do for themselves." Katy thought

> that was something that Virginia really wanted to do with our class, to let us know that a teacher doesn't have to get up there and be the end all source of knowledge, that there is a lot of knowledge in those kids, and to pull that out is going to be more beneficial to the kids to have come from them than to have come from the teacher.

But Katy was also clear about Virginia being incongruent with this category. She felt that usually Virginia drew out their comments and questions in the discussions and developed ideas with them, although she thought Virginia could have "done it a lot faster by saying look this is what a teacher is...". But there were times when Virginia got up and "preached" to the students and it "just didn't hit home the same way." At those times Katy felt Virginia's actions were

> inconsistent with the way I thought she was trying to model....I always thought it was ironic that out of everyone, she was the one that lectured...[because] out of everyone, it seemed like the thing that she valued most in teachers was real kid-oriented and...it comes from the learners...it doesn't have to come from the teacher.

Katy felt that perhaps why the incongruency stood out was that Virginia

> made a big deal of telling us that self-direction was important [but] never made a big deal of telling us that lecture was important....If she had come in and said I'm modeling this [self-direction] and modeling this [lecturing], then it would have been consistent.

Julie saw Virginia's lecturing, not as an inconsistency, limiting self-direction, but as a "combination of both, teacher input, student

input".

The specifics - students' perceptions. Of the ten specific pedagogical categories Virginia established, the students had observations about seven of the categories. They also talked about other activities which they learned through Virginia's modeling. If a new activity was mentioned by more than one student the researcher included it as a student category. The student-created categories of specific pedagogies are presented after their observations of Virginia's categories are discussed.

The categories of 2.non-permanent groups, 6.construction of curriculum which has some connection with children and 10.integration, were not specifically mentioned by the students.

1. Reading aloud. Most of the students did mention this strategy. Trinka and Beth both thought it was something to do first thing in the morning, part of a morning ritual (which is the way Virginia included it). Trinka felt she would have read aloud to children in her own classroom without Virginia's modeling, but felt Virginia's reading aloud had reinforced the idea for her.

Trinka, Gary and April (one of the student teachers) all thought Virginia modeled how to read aloud, along with modeling taking the time to do the reading. They spoke of her gestures, tone of voice and eye contact. April had taken what she learned and applied it to her student teaching. "Virginia modeled her way of reading a book, with a lot of expression to make it interesting....I remember that because I

do that now."

3. Self-selection. Virginia said this category had to do with the selection of materials and came under the umbrella principle of self-direction. Beth's remarks, noted above, about selecting her own books for Sustained Silent Reading is also an example of this category. Gary mentioned the selecting of their own books for assignments.

4. Using literature as a base for a reading program. An individualized reading program is based on children selecting their own literature to use in their reading program. Gary saw direct modeling of an individualized reading program in the methods class. "We read our own books and we did reports...she said go to the library and pick you own children's books...that was modeling of the individualized reading program."

5. Attention to substantive skills. Frank was the only student who made a comment which might go in this category. He talked about how he had learned that children's books could "convey some heavy duty points". Before taking Virginia's class he "always read a children's book as, reading it through and looking at the words, and didn't really take the time to think that these things were going on in a children's book." He learned to look at substance because as Virginia read children's books aloud to the class she asked them what ideas the book was conveying, pushing them to think about stereotyping and other implicit messages.

7. Use of many, many materials. Beth noticed that for Sustained

Silent Reading lots of books were needed and were there, and lots of activities were suggested at the learning centers. She mentioned that she saw how such numbers of materials would be valuable to use with children.

8. Many modes of learning. Gary talked of Virginia's modeling not just staying with a talking/listening mode of learning , but actually "setting up a workshop (learning center) in class, and having them work at the workshop, not just look at it." He was impressed that she took the time to get all the books and set up the centers. He also noticed her modeling using a film in the class. He thought she was "saying it is a good idea to have a film", but did not articulate any connection between using a film and different modes of learning.

Trinka was adamant about the fact that she felt that Virginia did not offer enough different modes of learning. During the second interview after the course was completed she talked about people in the class "getting bored, but she [Virginia] was still modeling the same way, the same modes." Trinka wanted more movement, less sitting. She wished the ways of gathering feedback would be varied. She felt that toward the end of the course she was writing because she had to rather than when she had things she wanted to say.

9. Peer interaction. As Beth talked of learning about working with peers in groups in Henry's class, the realization came to her that "all semester long we have done everything in small groups....It is such a nice support." She also felt that in the small groups she got to hear and think about different ways of thinking about things and

different ways of doing activities.

The students created three additional specific pedagogical categories, learning centers, Sustained Silent Reading/Sustained Silent Writing (SSW/SSR) and written agendas.

10. Learning centers. Many of the students' observations in other categories involved learning centers. They were an example of many modes of learning, use of many, many materials, active participation and self-direction.

When thinking about what she learned in Virginia's course Trinka first mentioned learning centers. When asked how she learned about them she replied,

> It was right there, accessible for us. You saw what to put in there...an arrangement of books, I saw, to cover all different reading levels and then the activity cards that go along with them, with questions to ask to get kids into it. If someone would have told me that, "Just lay out an array of books, put some questions down on paper", even if they gave me an example of a question to ask, I still wouldn't have remembered.

Later on in the semester Trinka set up a modified reading learning center in her prepracticum classroom. Gary, like Trinka, was impressed that the learning centers were right there. "Virginia could have said you can set up a workshop in your classroom and get books from the library, but she actually did it... actually showing us with hands-on experience that we could do things like that." Beth wants to set up learning centers in her own classroom. She liked the undergraduates setting centers up, "We are going to have to do this one day", but thought things might get out of hand if children set up their own

centers.

Two of the student teachers also mentioned learning centers. April said that she learned about the centers by planning, gathering materials, setting up and then using many different centers. She was not using learning centers in her student teaching classroom, but she wanted to with her own classroom.

11. SSR/SSW. Beth talked on about Sustained Silent Reading after having experienced it during the first class. What really affected her about SSR was Virginia's reading too.

> If she had sat there and said ok, for ten minutes [silent reading], and left the room I would have thought twice about it....I would have said she doesn't believe this, why should I do it?...I think that if you said it to your own kids...that they would do it.

Trinka liked the options of either reading or writing, have profitted by having that time to write her own feelings down and felt she would use it in her own classroom.

12. Written agendas. Beth, Julie and Trinka felt having an agenda on the board was a plus. Trinka said it was a "good modeling technique", but during the last interview had some negative feelings about the agenda because of the fact that the agenda showed what Trinka felt was "the same old thing", the same types of learning situations each week. Beth was clear that "by putting something up like that, made us aware of what we were going to learn.", and that Virginia wanted "to show us that when we have a class that it is not necessarily true that we are the only ones who should know what is going on....It

keeps other people involved with what you are planning." Beth saw the agenda as a way to make sure, as long as you are also flexible, to "get everything done."

Julie thought the agenda was a good organizational tool for the teacher and learners and one she considered important, so she was interested in Virginia's consistent modeling of the technique.

"Next steps" - students' perceptions. Although the researcher did not mentioned that Virginia had created "next step" categories, the students made some observations about some things which they thought Virginia unconsciously modeled. Some of these behaviors they saw as being inconsistent with other things she said or did, and some behaviors they felt they just did not like.

Students' comments fell into all but one of the categories already established. One "next step" category, scheduling and keeping neat received positive comments from students. Beth felt that Virginia was organized and her starting on time showed an interest in the class, showed that she cared. Katy, on the other hand, felt Virginia unconsciously modeled being "always really scattered". Katy liked it because she was that way too. She also felt that Virginia

> showed me that that works. You can have a thousand things in your notebook and everything is everywhere and if that is the way you are, then that is the way you are going to teach....Your style is going to come through no matter what, and if it is your style and you are being true to yourself, it is going to work.

1. Being genuinely interested in people. The students saw this

category having to do with personal relations. Trinka felt Virginia had "a lot together going into her teaching", but saw a difference outside of class and sometimes during class. "She is a totally different person, that is when her person comes out,...it is almost like, well, I have had to deal with you as a student today, I am now no longer your teacher, I can be myself." Then Trinka cited an example. A student, who sometimes started speaking before others had finished, asked Virginia a question while Virginia was talking. Trinka felt that Virginia was "so caught up in what she was saying that it didn't matter what (the student) was saying." Trinka noticed a similar incident happening when Chuck was speaking, yet he handled if differently. She remembered his acknowledging the student's need to speak and then got back to her when he had finished talking.

Katy felt similarly about Virginia's seeming lack of interest in the students, but felt she had the opportunity later in the semester to have more personal contact with Virginia. "Virginia really kind of kept herself aloof and it wasn't until the very end of the semester that I saw her appreciating me as a person." Katy was sure that that aloofness was unconscious behavior on Virginia's part and that it was important to Virginia not to be that way. As Katy talked she decided that the aloofness came from Virginia's concern for the intellectual, in pushing the students and focusing on issues. She did not let them "lolligag around" or have relaxed conversations centered on feelings. Katy felt Virginia modeled this attitude and that Katy learned from Virginia about working with children. "I don't know if it is through

her modeling, but she certainly showed me that kind of, keeping your stance as the person in control, is good for pushing the kids to be and know the most that they can...". Katy felt that although she tended to be more emotional than Virginia and would not be as effective using those behaviors as Virginia was, she still wanted to try to use them with children.

Katy's presentation of the negatives and positive points about Virginia's aloofness highlights the fine line between whether a behavior is perceived as one students want to model or one they do not want to try.

2. I intrude my opinions/giving people advice. Three students felt that when Virginia gave her opinion, she felt it was the "right" opinion. Perhaps this happened because of the way in which she presented her opinion. Intruding an opinion may give the listener the sense that the person speaking feels that it is important to get her/his opinion in there quickly, to set the record straight.

Both Julie and Katy saw this behavior in Virginia. Julie felt Virginia once led a discussion and no one was responding "because of the way Virginia worded it or the way she was coming across was like she had an answer in mind already and we were suppose to come up with it - that guessing game kind of thing."

In that case Virginia was subtly and probably unconsciously intruding her opinion, so no one spoke. During the semester before, Katy also felt Virginia was leading the discussion to come to her "right answers".

> It was kind of interesting that a lot of times I think she was trying to model that every answer is ok, but a lot of times we would get into discussions and some people were more right than other people....It was disgraceful, but often I'd say things because I knew them to be the right things to say and they were getting at what she wanted to get across that day.

Katy admitted that it is hard for a teacher to "steer away from that. You need to be pretty talented to not have that message come across."

3. Immediately correcting/interruption. The main area in which students noticed these behaviors was Virginia's interaction with the graduate students. Three of the four students in the methods class commented on Virginia's interruptions of and correcting of Chuck during class. Julie felt an "injustice" had occurred. Trinka said that she thought that "if you are team teaching you should not try to correct the other one, in front of the class, especially." She suggested that Virginia

> model more...'oops, maybe I didn't do this right or maybe I did say that wrong', rather than correcting someone else. Correct yourself then it may be all right...[then] I'd feel much more at ease with that [correcting others].

Although Beth felt that in one interaction things worked out well in the end, she did feel that when she spoke Virginia "first jumped out at me". Virginia then had to talk awhile for Beth to feel less tense.

Virginia said in her first interview that modeling "disagreeing but respecting peoples' perspectives" and "evaluating without being punitive" are hard concepts to model because students often see challenge and evaluation in a negative light. In these instances the

students did feel uncomfortable because they perceived negative responses.

4. Domineering/overwhelming. The students' comments about this category follow from their feelings that Virginia interrupted and corrected Chuck. Gary and Trinka were skeptical about the amount of team teaching Virginia and Chuck did. After Gary talked to Virginia about his thoughts on the subject and observed some more, he decided they were more of a team. He still had "...that feeling that she was the definite dominant personality in the class, but they both had input into the class."

Trinka's concern was that Chuck was introduced as an equal member of the team, so she did not think that Virginia "was giving him a fair chance". "She wasn't teaching...equal, equal Chuck, Virginia, it was Virginia [said as Trinka raised her hand], Chuck [said as she lowered her hand]. She was taking up more time than he was. She was maybe even a little bit...dominating, more correct than Chuck." If Virginia had come in and said that it was her course and Chuck was helping her with the course Trinka felt she would have looked at the relationship much differently. After Julie found out that Chuck was a graduate student she viewed the whole situation differently too.

> Now I don't feel like she was trying to take the floor away from him...it was more of a supportive kind of thing....When he maybe didn't have anything to say, she interjected something that would illuminate his thinking and start him going again. So she was being his teacher too, even though, a lot of us thought he was a teacher too....It was like all these mixed roles.

The students did pick up that Virginia dominated in the classroom and was the "center of attention", yet the only time they seemed to feel uncomfortable about that was when she was relating with another teacher.

5. Trying to cover the material. Katy talked about Virginia's incongruency between wanting to model giving people choices, yet lecturing every day. She saw as the driving force behind that inconsistency Virginia's knowing that there was "so much about teaching that she wanted to get to us." Katy also saw "trying to cover the material" as a reason Virginia gave mixed messages about every answer being valid.

> She was trying to model being flexible enough...so every answer is ok and every answer is important....I think it was so hard for her to stay with that when she had so much in her mind about what had to come out that day that certain answers, certain things that people said were more important than what other people said because they were right on with what she had planned for the day.

6. Too high or unclear expectations. This category was created by some of the students. Some students saw Virginia with high expectations, which they liked. Katy's seeing Virginia "stick[ing] to the intellectual stuff", modeling that "people need to be pushed" by getting them right back to work after break and having focused discussions which asked them to think and think, are examples of positive high expectations. Beth felt a push to "go out and find things out to make your lesson the best it could be". These examples might fit in Virginia's category of "Doing things with quality".

Both Trinka and Gary had not turned in all their assignments by the last interview. In her last interview Trinka felt the expectations of the homework assignments were not clear to her. She thought if they had been able to do a children's book analysis right in class she would have had a better idea of what was expected for the homework. Gary just thought Virginia modeled, unconsciously, the pressure of too many assignments. Setting too high expectations caused anxiety in him and he had seen that anxiety in children too. He thought, in his practicum setting, the 5th graders were asked to do too much homework and they could not just "be kids" when they got home.

Case Study of Henry Seavitch

Henry Seavitch came to the State University in 1966 and has worked with Virginia Apple in the Elementary Education Department since 1969. Before teaching preservice elementary students he taught junior high school science.

Henry thinks he got involved in modeling, indirectly, because of the way he discovered that he wanted to teach science. Henry was teaching a 9th grade science class and was telling them about blood typing, when the thought dawned on him that he could have them try to come up with the understanding of what possible models of blood types they could have, given the data they then obtained. Why tell them, when they could be involved in actual scientific processes themselves. So

> as a science teacher when I was trying to make my students be aware of the processes of science, I was trying to model science in my classroom, so I was giving them opportunities to work with data rather than just memorize data in the textbook or whatever they were doing....I think, after that, it became just more or less natural, because in dealing with science, elementary science methods teaching, I was working very hard at trying to get them involved in process.

The processes of science deal with how answers and ideas come about, rather than with just what the answers and ideas are. The conscious use of modeling involves a how also, because the teacher is inviting students to look at how they are teaching, rather than to look at just what they are teaching. Henry was sure that modeling had to be involved in process.

> I think modeling is process. So I think it is because I am a process-oriented person from my science teaching background and that thought has carried through....It began to be as much a creating [of] the atmosphere for learning,...which can't help but involve some sort of belief system of modeling, when you are trying to create an environment that is conducive to what you are trying to have happen.

Central to Henry's reasons for beginning to use and continuing to use modeling is his idea of congruency. "I believe that what I am trying to model is worth doing. There has to be a congruency somewhere between what one believes and what one does." Henry has a clearly defined philosophy of teaching that "involves [people] developing skills for self-learning, learning by themselves." Because of that philosophy, to spend a lot of his time "telling people what to do...seems antithetical to [what he believes]." Modeling, as a way of not "telling", but "showing" in teaching, is more consistent with his

philosophy of teaching.

Like Virginia, Henry's family usually emphasized the need for congruency between what you said and what you did. "One should not be a hypocrite..."

As he looked back in his life, thinking about people who might have influenced him to use modeling, Henry remembered one professor he had as an undergraduate. Although Henry had not realized it at the time, he thought

> some of the seeds were sown...from a professor...who was one of the best teachers I ever had, who modeled, who modeled science process. He may have been the...only one, I believe, who really actively practiced what he preached in terms of science and learning. Everybody else was a teller. But this one guy was somebody who actually had a congruency between what he did and what he was talking about....He was one of the teachers who stood out as far as I was concerned as being a kind of person that I felt was, wow, I wish we had more like that.

As Henry talked about how he became involved with using modeling he decided that "this is the first time I have been consciously aware of the modeling....I've been <u>aware</u> of it, but it has been subconscious." As he talked more he realized that his thoughts about modeling were changing and would change more, and become more conscious, because of his involvement in this study. When he first started teaching preservice teachers he used modeling as a way to be congruent within himself. In the past

> what I thought about modeling...was a matter of a struggle for congruency, trying to make sure that I was practicing what I was preaching....I think probably my modeling was more for me. I wanted to present a good model, because I wanted to

> show it was possible to do the stuff I was talking about.... "It is possible to learn something from these techniques and I am going to show you how to do it". But it wasn't my top priority to find out whether or not they were picking up my modeling I think....If I stood there all day and told them what they ought to be doing and just said don't do what I'm doing, then I think it would have hurt. I would have felt it, heartburn....It was like a conscience....I may not have been that aware of the fact that it was important. That it was important for them to know what I was doing and why I was doing it, that has grown over the years.

When he thought about teaching his first methods classes at the State University, Henry said

> I really, at that point, was consciously trying to model a teacher who would let kids inquire and learn something and extend that learning into new situations, by letting them [the undergraduates] do that. I can't think back to whether I was consciously thinking about modeling. But I was consciously thinking about providing an environment and I had to be part of that environment.

Henry was clear that he wanted to be congruent in what he believed and what he practiced but had not, perhaps not until this initial interview, talked about articulating to students the fact that what he was doing was modeling.

Henry's involvement with modeling started with a personal need for congruency, moved on to wanting to show teachers a congruent way of teaching and now wanted to specifically articulate to the students what he was doing and why he was doing it. He was becoming more aware of modeling as a teaching strategy, and he wanted undergraduates to be more aware of modeling too.

Unlike Virginia, who had talked specifically about modeling for years, Henry was articulating his views about modeling for the first

time during this study. Sometimes during the interviews Henry would use the word "modeling" as he talked about an idea or strategy, while at other times he would use other words to describe what he did in class, "that is another value that we propose".

As Henry thought about what parts of his personality lent themselves to his using conscious modeling, he decided that his personal need for congruency was a dominant factor. "I hope that congruency is part of my personality and I think that is probably what everything else is hinged on....To have consistency and honesty between what [I] say and what [I] do." A second personal characteristic which he felt was necessary for modeling was self-confidence. "I really believe that what I have to offer is valuable. And I really believe the way I do it is a right way." He said that with "people who are really unsure of what they have to say or what they have to do, what do they have to model? They have to model, insecurity." Instead, a person needs to be able to say, "I'm a damn good teacher". Henry's own personal sense that is he a very good teacher is also corroborated by other people. He has been nominated for the State University's Distinguished Teacher Award at least twice, the last being during the semester of this study.

Although Henry knows that basically he uses modeling in all his classes, he noted personal factors which increase or decrease his use of modeling. He thought he would be less likely to use modeling when he was really rushed.

> If I feel as though I've got to complete something by the end of the day, that if I don't get to a certain point and I'm short changing the students and they really need to have this technique before we go on to what we have planned on for next Tuesday...

Henry also felt that if he rushed through the material in a way that was not too obtrusive and domineering, he would be modeling another way of teaching which would be useful to undergraduates at some point when also they had a time constraint which was inflexible.

Pressures, both physical and mental, greatly affect Henry's use of modeling. They can lead to feelings of "survival, finishing, I don't want to be here today, I'm sick, my mind is on something else, how fast can I get this class to do this, I just want to get it over with." "Those things happen and on those kinds of days it is really hard to model." Usually those feelings exert pressure for only an isolated class or two. Henry remembered only two different years when he had trouble using modeling. They involved personal pressures and really affected his teaching.

> I did not prepare, I was just going through the motions. And that was from within...It would have to be a physical or mental pressure that would probably cause me not to prepare. Because if I had the time to prepare and felt like preparing I undoubtedly would probably prepare something that would involve modeling.

Henry decided that to be a little nervous about a class was a factor which probably increased his use of conscious modeling. "I think sometimes if I'm maybe a little nervous, trying something new, I'm maybe more aware of (modeling) than if I am planning something very

comfortable and I've tried over and over again." Henry thinks that those old tried and true activities often times have less conscious modeling involved in them. He has to watch with an activity which "I've done lots and lots of time, that I may become so comfortable with it that I let it fly itself. And that I don't keep track of what I am saying or doing as much." Because he tries not to be too comfortable and to be a little nervous in his classes Henry's courses are seldom the same from year to year. He may try certain activities again and again, but does try to keep each class different.

Outside factors which have influenced Henry's use of modeling include his colleagues and the College of Education.

> Another additional suppport is the working with people who believe that [modeling] is important. The Elementary Education Program itself, it isn't pressure, but it's being with people with like beliefs that gives one support just by being part of that group. If I didn't believe in that I guess I would find another group.

Henry does wish that the teaching faculty would spend a little more time together just "talking about the things we believe in." He thinks that the lack of time together does affect his use of modeling because "of the fact that I think we might be able to give each other feedback."

Henry feels he also gets support from the College. "It is...the freedom the College offers that allows a person to practice what they believe is important." Another positive influence Henry mentioned referred to this study. "I think working on someone's dissertation

might make me more interested in using modeling." He also thought that perhaps if he had easy access to video tape or audio tape their presence might help him work more on modeling.

Outside factors which might make Henry less eager to use modeling might be "some administrative sort of thing", but he had not ever encountered that while working at the College of Education. He did start to mention lack of money as a possible negative influence, but then decided that money was "not that important to modeling."

Although Henry had not previously articulated for himself or for others how the concept of modeling fit in with his philosophy of teaching, he was very comfortable and excited to talk about his use of modeling and to make connections between his way of teaching science and using modeling in his courses.

The Beliefs, Attitudes and Practices Which are Consciously Modeled by Henry Seavitch

The initial interview with Henry took place after the first few days of the semester. Henry's course did not begin until halfway through the semester.

When Henry was asked what beliefs, attitudes and practices he consciously tried to model in his science methodology course, he felt he could not really know because he and the graduate students with whom he would be teaching the course had not really planned much yet. "Again, that is another modeling, I want Chuck and Mariah to have a

real big part of that....I want to develop their strengths and use their strengths...so I can't say specifically what we will be doing." Henry did talk about what he suspected that they would try to model.

As categories came to mind Henry would mention them to the researcher. After the first interview the researcher arranged the categories into three different groups, added the categories which she had noticed during class or the undergraduates had observed and presented the groups to Henry for his comments. He then added categories which he felt were missing and switched some categories to another group.

The groups of categories developed were the specific beliefs, attitudes and practices which Henry consciously tries to model about teaching science, the beliefs, attitudes and practices which Henry consciously tries to model about teaching in general and the categories Henry feels he is "working on". As Henry looked at the two groups, science teaching and teaching in general, he chose to leave them as separate categories although he thought the general teaching categories were pretty well intermixed with his science categories. The "working on" categories will be presented after the other two categories.

The chart below, Figure C. presents all the beliefs, attitudes and practices which Henry feels he tries to consciously model. They are divided up and placed in the categories the researcher suggested based on the initial interview and with which Henry agreed. The chart consists of the final placement of categories, established during the last interview.

FIGURE 3

Beliefs, Attitudes and Practices Stated by Henry Which He Consciously Tries to Model

I. Beliefs, Attitudes and Practices Modeled about Science Teaching
   A. Science isn't full of information and facts that are cast in stone
   B. Science is something they live with everyday
   C. Science materials from the environment
   D. Not taking content too seriously
   E. Curriculum materials consistent with philosophy in kind and chronology
   F. Treat animals with respect
   G. The learning cycle
   H. Enjoying science

II. Beliefs, Attitudes and Practices Modeled about Teaching in General
   A. Flexibility based on data and children/self-evaluation
   B. Uncovering curriculum/inquiry
   C. Taking risks in learning/trying something new
   D. I don't know everything
   E. Process being as important as content
   F. Trust students/give responsibility and choices
   G. Final responsibility rests with the teacher
   H. Responsive, safe environment
      1. materials
      2. teacher
      3. flow in classroom
      4. clean-up
   I. Adapt materials, don't throw them away
   J. Self-learning
   K. Cooperative learning
   L. Asking them to think
   M. Leaving things dangling
   N. Using my strengths
   O. Integration
   P. Many modes of learning

The Beliefs, Attitudes and Practices Consciously Modeled about Teaching Science.

A. Science isn't full of information and facts that are cast in stone
B. Science is something they live with everyday
C. Science materials from the environment
D. Not taking content too seriously
E. Curriculum materials consistent with philosophy in kind and chronology
F. Treat animals with respect
G. The learning cycle
H. Enjoying science

A. Science isn't full of information and facts that are cast in stone. Henry thought he and the graduate students would probably use an activity called "What's in the Bag" which

> has its own little goal, the model of science, which is a non-conclusive model. It is one of building models for use and those models are only useful as long as they add to [the students] understanding and then try to get them to realize that science [facts]... have to be constantly monitored and changed and modified.

When Henry talked about this category at the end of the semester he decided that "It is hard to model, it is just something that we try to make clear." He thought that there were several times when the students were encouraged to build models, "which were appropriate, as long as they worked."

B. Science is something they live with everyday. Henry wants to help the students to see that every question they have about the world around them is science. "It doesn't have to fit into the category of meteorology, or magnets or forces, machines, things like that." He

thinks that they practice that

> when we ask (the students) to design an experiment that is using some question that they have, which is personal, being why do we put salt in water when we make spaghetti? or...does beer cool off faster if it is in an open bottle or an open can....Which means that those are all pretty mundane but they are still science.

C. Science materials from the environment. This category follows right along with the previous one. Since "science is something they live with everyday", the kind of materials "we use in science are almost entirely the kinds of things a kid can find, not the stuff they have to get out of a science kit, produced by Houghton Mifflin." He uses materials which "are easily accessible. They aren't esoteric kinds of things that are only found in a physic lab or a chemistry lab, that a kid can never get his hands on once he leaves class." Henry wants to supply the undergraduates with easily accessible materials, so the undergraduates will be used to and want to use materials from the environment when they work with children.

D. Not taking content too seriously. Henry decided that this category was a major value or attitude which he modeled and that he hoped the students would pick up. He believes that "one can have fun with [content], that one can joke with it, can poke fun at the scientific process. It isn't something sacred, it isn't a sacred cow, and so [we] poke fun at ourselves."

E. Curriculum materials consistent with philosophy in kind and chronology. Henry felt the curriculum materials that he used with the

undergraduates had to be consistent with the rest of his teaching, or they "would stick out". He was clear that he was modeling that category for the students and hoped that they would use congruent curriculum materials when they taught.

F. Treat animals with respect. Henry hoped that by his modeling and the graduate students' modeling of treating any animal they used in class with respect as living organisms, that the undergraduates would also follow suit. Henry said that he would also tell stories to help make his point.

G. The learning cycle. Although Henry did not think that he stated to the undergraduates that he was modeling the learning cycle, he felt that it was used a lot throughout the course. "I think just about everything we did modeled a learning cycle. We had our times for exploration, we then introduced concepts and we then had the applications."

H. Enjoying science. Henry knew that many of the undergraduates came into his course with a dislike for and/or a fear of science. One of the first things he tries to do in his course is to focus on finding out "where (the students) are, in terms of their fears about science...and then try and work on making them more confident in their ability to teach it as time goes on." He also wants them to be "enjoying what they are doing."

Beliefs, Attitudes and Practices Modeled about Teaching in General.

A. Flexibility based on data and children/self-evaluation.
B. Uncovering curriculum/inquiry
C. Taking risks in learning/trying something new
D. I don't know everything
E. Process being as important as content
F. Trust students/give responsibility and choices
G. Final responsibility rests with the teacher
H. Responsive, safe environment
   1. materials
   2. teacher
   3. flow in classroom
   4. clean-up
I. Adapt materials, don't throw them away
J. Self-learning
K. Cooperative learning
L. Asking them to think
M. Leaving things dangling
N. Using my strengths
O. Integration
P. Many modes of learning

A. Flexibility based on data and children/self-evaluation. Henry sees this as a parallel category to his first category about teaching science. (see above, page 170) Just the way science facts can and should be constantly monitored, changed and modified, Henry wants the preservice teachers to

> look at themselves as people who need to look at themselves in terms of self-knowledge and look at the data and decide whether or not what they are doing is applicable at the moment and be able to be flexible enough to move and change as they find new data, and they are constantly finding new data as they look at the kids and see how the kids learn.

To help the students learn that flexibility Henry sees that

> part of our modeling will also be to have a flexible class, so that we won't necessarily always have to finish exactly what

> we had planned to finish at the end of that day. So if something comes up that looks like it might be more appropriate, we'll move in that direction and they'll know why.

This flexibility covers both working with groups (changing an activity which was not working) and with individuals (being aware of and working with students' individual needs). "To the group and to the individual...the antennae need to be out all the time."

B. Uncovering curriculum/inquiry. He places this category very close to the previous one, because an inflexible teacher would probably be one whose overwhelming goal is to cover curriculum, "finish the chapter, finishing the book, covering everything in it". He wants students to

> uncover ideas. I might be tempting people to get interested in something rather than go into great depth with it....If I can be more involved with uncovering what is out there, than covering it from A to Z, I can uncover more things and get people involved in more things.

That might mean giving them a sample of what they could do with a concept or idea and also "encouraging them to do things on their own, to pick up their own interests and deal with those." He sees this category overlapping with his category of self-learning, but "uncovering curriculum" deals more with "the topics [the students] may become interested in." Inquiry, in being an "inductive or deductive attempt to find answers to questions" was to be one of the main foci of the course. Henry wanted the undergraduates to learn by using inquiry, so that they would help children learn how to seek answers too.

C. Taking risks in learning/trying something new. Henry hoped

that he and the graduate students would model this attitude, but he was not sure if the undergraduates would be aware of the modeling. The undergraduates "probably think we walk in and say, it is all planned....It may not be obvious that each of us is risking whatever we risk, because if it works we weren't risking it and if it doesn't we'll just say that we risked." During the orientation before classes started Henry did mention "something about risking when we said we had never done this, that and the other thing before." Even with such articulation Henry was not sure that "risking" would be observed by the students.

D. I don't know everything. This category involves the ability "to consciously not be afraid to say I don't know." Along with that admission goes the idea of "let's find out together." Henry was wary of saying that because he has heard

> lots of people say to people let's find out together, but I don't think they really mean it. What it really means is let's find out together, but I hope you aren't concerned about it tomorrow because I don't even have the time to worry about it.

E. Process being as important as content. Henry was certain this attitude would be modeled, because, "I hope we will continue to ask them to process what they are doing. That will probably come out in some of those assignments about why do you think we gave you this assignment?" Henry felt that when they asked the undergraduates "why did we do this or why did we do it this way? What did you learn?" types of questions, that they would start seeing how important process

is and also be more aware of modeling that was occurring.

F. Trust students/give responsibility and choices. Henry thought that the idea of trusting students was a belief which he did model. He referred to the orientation day and the fact the students were the ones who decided how to organize and then did organize and carry out the preparations for the overnight. Henry does know that he sometimes feels "a hesitancy, maybe a lack of trust" because he is concerned, when he probably should not be, that the final product be a success. At those times he might find himself saying to the students "have you thought of... and they said, yea, we are going to discuss that."

The researcher, after observing in Henry's classes, added the practice of "giving choices". Henry's giving students meaningful choices during class was a obvious way he modeled the belief of trusting students.

G. Final responsibility rests with the teacher. Henry thought that the reason he did check up on students, even while trusting them, was due to the fact that he felt that "the buck stops here", and that he modeled that idea too.

> The teacher still has to take full responsibility in the end and what the students don't come up with, the teacher must have at least contingency plans to be ready for. That is what experience is for.

H. Responsive, safe environment. When Henry introduced this category he talked of four separate categories - 1. materials and 2. teachers in the environment which are responsive to children and 3. a

flow in the classroom and 4. an expectation of clean up which involve organization and thoughtfulness about the environment. When Henry thought about what type of classroom he would like to see the undergraduates have, he said he hoped

> the kids would be getting feedback in one way or another either from the teacher or the materials they were using. The teachers would be careful to give the kid, and let the kid use, materials which would give him feedback, which I think we try to do.

The important aspect to the feedback would be its immediacy. The children would "do something to something and the thing would answer them back and say yes, no, maybe, whatever" and the children wouldn't have to wait for six months for the answer. An appropriate material which can give immediate feedback to a child might be "budding twigs", used at a time when the twigs were going to be doing something. An inappropriate material would be an animal which sleeps all the time used in an activity which requires the animal to respond to the child.

The teacher is part of that responsive environment too. "The teacher responds with maybe another question or with a clue, with a suggestion, whatever seems appropriate, and I would love to see [the undergraduates] being able [do that]." This part of this category overlaps with another of Henry's categories, "flexibility based on data and children"(see page 173), in that they both involve giving students individualized attention. Other responsive behaviors Henry sees that he models are using proper wait time, having and using a broad range of types of questions. "The questioning technique is something really

important that I like to model." Henry also likes to give students support, but he is "not a believer of positive reinforcement said in the classroom." Henry does not praise every question. He is more of a responder to people, in a way that says that "I'm glad you contributed."

Henry was concerned to find ways to make sure that he received feedback from students. He saw Virginia's use of a feedback sheet as one way to gather feedback and hoped to come up with other ways during the semester.

Two other specific techniques which Henry wanted to model were "to provide materials in such a way that there are not log jams or traffic jams of people all trying to get the same materials at the same time." and "to model clean up at the end as an important aspect of using materials in the classroom."

The researcher added the idea of a safe environment to this category after observing in Henry's class. Henry's class had a very comfortable atmosphere, involving a lot of humor, allowing students to freely speak, and having food available. When the researcher suggested this addition Henry agreed that those ideas fit with this category and he also gave another example of "giving birthday parties", in which he participated.

I. Adapt materials, don't throw them away. Although Henry talked about modeling having curriculum materials be congruent with philosophy when he thought about his "science teaching" categories, he also felt that he modeled adapting curriculum materials even if they are not

totally congruent with his philosophy. He knows most school systems give teachers a published science series which they are encouraged or required to use. He wants the students to know how to use the series in a constructive way. "You don't just throw it away, you use it, you adapt it in some way. You don't complain about it, you adapt it." Henry feels that most series "adopted" by a curriculum committee are enthusiastically accepted for a few years and then teachers become dissatisfied with the series. That also would be another case when "adaption" is an important skill to have.

J. Self-learning. Henry places this category at the center of his philosophy of learning. He thinks he has a "constructionist point of view of learning, that knowledge is constructed and everybody needs to see that knowledge is constructed and that they need to construct their own, individually, personally." The students "have to learn by themselves...there is no one who can do that learning for them...I'm not teaching them, I'm facilitating their learning." The way Henry models this idea "by giving people, putting people into situations where they are challenged, so they have to draw some conclusions and come up with generalizations which have mileage to go on further and be adapted." Self-learning is active learning, not learning which is given to you by someone else.

K. Cooperative learning. When Henry looked over the categories developed from the initial interview he noticed that cooperation, cooperative learning and the next category of "Asking them to think" were not on the sheets, and he wanted to add them. He did not

elaborate about the categories at that time.

L. Asking them to think. As stated above, Henry added this category during the second interview. The researcher was not sure what observable behaviors would fit into this category, so asked Henry about it after the 3rd class. He said that he "was thinking of convergent and divergent, probing." During class that day he

> was using a lot of probing-type questions. I was hoping that they might see that...I said what types of questions do you think I was asking, to get [answers such as] questions of illumination, questions of clarification, that sort of thing, that is what I am talking about, to model those and try to ask a lot of those. [Another would be,] why do you think I gave you this assignment.

M. Leaving things dangling. Another way of getting the students to think and discovery meaning for themselves is to "leave things dangling". The first time Henry mentioned this category he had just finished talking about inquiry, and he said he wanted to "leave a lot of things dangling for them to continue to think about and will probably not tie up a lot of loose ends every week and let them know why." When the researcher asked him after the 3rd class about this category, Henry presented a slightly different idea. The 3rd class had been overplanned, and Henry did not have time to finish up to his satisfaction some of the activities of the day. When given the updated categories to review Henry saw this category and laughingly said that they had done a good job of leaving things dangling that day. With that in mind he said that this category "isn't something that I want to, for them to have to do all the time. It is just something, a

modeling, that it is ok occasionally to leave some things dangling, not completely all brought to closure." The opposite of this type of "leaving things dangling" is "to have everything all tied up in neat little piles before we leave the room, that sort of thing."

N. Using my strengths. Henry created this category at the end of the first interview. He had been speaking of the fact that he tried to use techniques which he had had success in doing previously and then he realized that he modeled, although unconsciously, using his strengths as a teacher.

> So I'm not going to model just do as I do, but I'm going to try to model, oh, I haven't thought about this, modeling using my strengths. I've never really thought about telling them I am doing this because this is a strong point of mine and that is why I am doing it this way.

O. Integration. As she did with Virginia, the researcher introduced this category to Henry after observing in class. He gave an example of reading poetry in the second class and was surprised that he had not mentioned integration during the initial interview. "Funny that...I didn't mention it though. Come to think of it, it may not weigh as heavily, consciously, as some of the others, but I think unconsciously it still has a spot in our curriculum." Henry thought that when the faculty had first started the Elementary Education Program they focused on integration more consciously.

P. Many modes of learning. This category was introduced both by undergraduates in their in-depth interviews and by the researcher, based on observations. When the category was suggested to Henry he

thought, as with "Integration", he was not consciously aware of modeling using many modes of learning

> it is probably just a value. It is maybe something that I believe in so strongly that, that it is something I don't think about anymore....what you are saying is that we tried to get all the visual, the audio, the body,...everyday had all of those sorts of things. That was probably just almost subliminal.

Henry's Categories Which He Feels He is "Working On".

A. Impatience
B. Follow through on expectations
C. Self-illumination
D. Articulation
E. Different types of evaluations

A. Impatience. Henry feels that this category is "one of the biggest things that I have difficulty with and I work on constantly, I hope." For him there is a fine line between when to step in with students and when not to step in.

> It's kind of a trade off...to give a response to a student to help them to learn themselves if they can do it, and to give them the added hint or an answer that they need to know if I know that it is best to do that... [and then to have] the wisdom to know the difference.

Henry's categories which focus on trusting students, self-learning and being responsive as a teacher represent a desire on Henry's part to be aware of the students' needs and strengths. Modeling those categories involves a tight balance - on one hand Henry tries to refrain from stepping in while the students learn on their own and on the other hand, he wants to make sure he is aware of when the

students do need his ideas and answers. This "working on" category happens when Henry feels he has tilted the balance more to the side of his giving ideas and answers before students want them and/or need them.

Henry would like to see the undergraduates gain an understanding of when to intervene and interact with their students and when to be patient and allow them to work on their own.

Henry felt that the way the semester was structured, with Reading/Language Arts meeting a full day once a week for the first half of the semester and then Science meeting for a full day once a week for the second half of the semester, was not conducive to working on his category of "Impatience". Because he only had six weeks in which to get to know the students, Henry felt that was not long enough to really get to know students and their frustration levels, when they needed help and when they did not.

B. Follow through on expectations. During the second interview Henry talked about having clear expectations about such management concerns as starting on time, clean-up, having homework assignments ready on time and participating in class. He wanted to model following through if those expectations were not being met by the students. Later, as he reviewed his list of categories, Henry said that he was still working on this category.

C. Self-illumination. During the second interview Henry also said "another thing that I am working on too, that I think is a good modeling is...it is when you open yourself up and say here is where I

am." Henry decided that opening up to allow the students to see feelings, "I am a little angry today or upset today or nervous today, just so people know where you are coming from," was called self-illumination. He had done it purposely a couple of times during class that day.

D. Articulation. After the course was completed Henry decided that "probably I could have mentioned modeling more than I did". He thinks that he has a

> propensity...for keeping [things] subtle, rather than obvious, and that is something that I would really like to do more about....I have a tendency to assume that people are picking things up, when I really need to get the sledge hammer out occasionally rather than the feather.

E. Different types of evaluations. A final category Henry established after the course was over involved evaluations.

> One of the things that I was working on, but didn't succeed too carefully on was we tried to get more evaluation from [the students]...I had never really done...an evaluation for each session and we tried to do that and we were going to model lots of different ways to evaluate what went on in class. And we worked on that, each time was a little bit different.

Observations of the Science Methodology Classes - The Beliefs, Attitudes and Practices Which were Observed by the Researcher

Following similar procedures to the ones she had used for collecting data in the Reading/Language Arts classes, (see page 97), the researcher observed all of the six, full day Science Methodology classes. After the initial interview she compiled a list of categories

of the beliefs, attitudes and practices which Henry thought he would be modeling in his classes. Henry reviewed those categories after the second class, making any changes and putting in additional categories. During the first class the researcher collected a "running record", through tape recording and writing notes, of as many observations and interactions as was humanly possible, in the order they occurred. For the remainder of the classes, the researcher recorded observations and interactions on a ditto listing the different categories Henry had created.

As with Virginia's behaviors, most of Henry's behaviors could be matched perfectly with one of his categories and were recorded accordingly. For the behaviors which seemed to overlap categories, they were placed in one or the other appropriate category. Although many behaviors were not recorded due to how quickly people acted and how many actions happened in a short time, hundreds of behaviors were recorded and placed in appropriate categories.

The researcher created a few categories when she found no appropriate category for behaviors she observed. She then showed the new categories to Henry and he accepted them or combined them with an already established category.

Henry and the researcher created 23 categories of behaviors which he felt he tried to model in his classes. During the classes the researcher recorded behaviors in all of those 23 categories. Many of the behaviors occurred every class, while some happened just a few times during the semester.

In this next section, examples of the observed behaviors are presented. They are typical of all the other data collected. They are presented in the categories established by Henry. Perceptions of the students are included, but the perceptions of the four undergraduates who had in-depth interviews and the student teachers are presented in the following section.

"Science Teaching" categories - observations.

A. Science isn't full of information and facts that are cast in stone. The observer had a hard time knowing exactly when Henry was modeling this category and asked him to give examples of when it had occurred during the semester. The different times when the students worked with "mystery bags" and with bulbs and batteries Henry used a "model" only for as long as it would work, and he would modify and change the "model" when necessary. When they worked with the bulbs and batteries they "took data and we built a model to see how it fit into the data we had developed about the bulb lighting." Henry was clear he had modeled this category, but felt it was not stressed as much as he would have like it to have been. The observer was clearer about the category after Henry gave examples from the class. She had heard him tell students about this idea twice during the semester, and as she thought back on the activities understood how he had modeled the category. The observer did wonder if the undergraduates would have as much trouble understanding or observing this category as she had had.

B. Science is something they live with everyday. Henry modeled this category during every class period. The theme of the first class

was "Where's the Science" and the group started at the Super Stop and Shop, a nearby supermarket, doing science related activities in the store. The activities included figuring out how the electronic door worked, looking at the different types of fish and the tanks in the fish department, and looking at the ingredients of cold cereals. The students then created new activity cards about a different part of the store. They then went to an orchard and did science activities using the trees, leaves and fruits. When Henry asked the students at the end of the day what they thought were the staff's reasons for doing a field trip that day, the first response from students was "to see that science is everywhere."

Many of the classes involved going outside, even briefly, to use the trees for activities. Inside activities involved using household items such as paper towels and miscellaneous "junk" in paper bags. The homework assignments involved finding science everywhere, too. The students developed reference cards, telling about books, places, people, films, etc. which they thought were good resources for science. Suggestions for the experiment the students needed to do involved real life activities and everyday things like does coffee cool faster with cream or without, how to keep fizz in soda, and in what type of container does beer stay cool longer.

C. Science materials from the environment. This category overlaps with the previous one because when science is everywhere, science materials are everywhere too. Almost all of the materials Henry used with the students could be easily found by the students

themselves. Mirrors, trees, art supplies, paper towels, bulbs and batteries, and mealworms are all easily accessible materials. Even mealworms come from pet stores, not science supply houses.

D. Not taking content too seriously. Henry joked about mealworms, read a humorous article about inference and animals, and poked fun at television commercials while the students were involved in "product testing". Even when dealing with hard concepts such as conduction and energy transfer, Henry had students learn about the concepts through skits and crazy inventions.

E. Curriculum materials consistent with philosophy in kind and chronology. The published curriculum materials Henry used were very consistent with his philosophy. The Project Learning Tree book was an integrated, hands-on, inquiry based book. The published program worksheets Henry used had students work on their own, exploring with the materials and not looking for "the right answer".

F. Treat animals with respect. Henry worked with animals only once, when they were observing mealworms. Henry was very gentle and respectful about the animals when working with them and talking about them. No mealworms were mistreated or hurt. One of the graduate students said she would take them home and keep them after the class.

G. The learning cycle. Four of the six classes included using the learning cycle. In the second class there was exploration with mealworms, and the mystery bags about the scientific process, introduction of the concept of scientific process in small groups, and applications of the scientific process in the testing of paper towels.

In the fifth class, getting the bulb to light was the exploration stage. Then Henry introduced the concept of circuits in a group discussion, and then the students applied what they had learned in making their own circuits. Although the observer understood the learning cycle and was able to see that what the students were doing during the classes involved the learning cycle, she was not sure if the undergraduates understood that what they were doing was following the same learning cycle about which Henry had talked.

H. Enjoying science. The title of the "Magical Mystery Tour" (named so because the students were not told about any of the places where they were going that day), and the theme of trying to find "Where's the Science" set the tone on the first day that science can be fun. The second class had small discussion groups during which people shared their "best and worst" science experiences from their past. The students wrote about these experiences and also talked about them. During the last class Henry had the students look at what they had written during that second class, to see how their feelings about science had changed. One student said to the whole class at that time that "I feel more comfortable with science now. I don't feel intimidated by science." Others nodded their heads in agreement.

"Teaching in General" categories - observations.

A. Flexibility based on data and children/self-evaluation. Henry modeled this category both with the students as a group and with individuals. During the first class the students were looking at a group of trees outside of the conservatory. The curator came out and

after talking informally with some of the students invited the whole group to come in, saying he would give them an official "children's tour" of the greenhouses. Although this was not planned for the day, Henry caucused with the graduate students and undergraduates and they all decided to change plans and go on the tour. Also on that day Henry handed out the course schedule and half of the course was not outlined. Henry said that the last three weeks would be announced later. "We are still working on some things, and we will probably try to get some feedback from you on that, about what sorts of things are very important to you." Students were encouraged to give verbal feedback and did some sort of evaluation/feedback of the class most weeks. After the second class a student mentioned in her feedback sheet that the undergraduates should be helping with clean-up. Henry agreed that she was right, and from then on he always asked the students to clean up also.

At some point during most classes, the class was off the schedule as it appeared on the agenda. Henry and the graduate students would rearrange the times to allow for finishing up a discussion or activity. During the second class Henry was scheduled to talk about "the teachable moment" during the latter part of the morning, but earlier, during the mealworm exploration Henry felt there was a "teachable moment" about observations and inferences, so he modeled a "teachable moment", and switched his discussion about that topic to that time, as well.

In addition to being flexible with the group and its needs, Henry

also responded to individuals' needs. After someone asked a question and the group had talked about the question and suggested different answers, Henry would often get back to the individual student and ask if that was what she or he had needed. In another instance he checked with Trinka to see if she needed help to get her going on the activity after she had arrived late. Because Ken was the last one to get his bulb to light in the first part of the morning exploration work, Henry went to work with him. By skipping over one work sheet, Ken could be one of the first students to get to an activity with a popping balloon. Henry told the researcher later that he had consciously moved Ken along to help Ken to see himself, and for others to see him, as one of the first to accomplish the task, rather than the last.

The fact that Henry had agreed to be in this study and allow someone come for the whole semester and observe the class and ask students about his teaching was a very strong, but unspoken, modeling of wanting feedback for self-evaluation.

B. Uncovering curriculum/inquiry. Almost all of the activities and discussions in Henry's classes were based on "uncovering" curriculum topics and the process inquiry. The students discovered what different ways they could teach science in a supermarket and in an orchard. They got a taste of observing animals, testing a product, and working with electricity. The way that the activities and discussions were structured involved inquiry. The students were not told how to complete an electrical circuit or the characteristics of mealworms or how to design their experiments, but were asked questions to get them

to find answers themselves. Questions like "How many ways can you find to make a mealworm back up?" "What attributes do paper towels have?" and "Do you have any idea about how you might go about setting that (experiment) up?" encouraged students to think and come up with answers themselves.

C. Taking risks in learning/trying something new. Because the observer did not know when Henry was trying something new, she usually depended on his articulation of what he was doing to know that this was the case. Henry told the whole class that he was taking a risk by having the group go on the overnight so early in the semester. Henry told the observer that going to the Super Stop and Shop was a risk, something he had never done before. He also told her that he was having the students write limericks as a means of evaluation at the end of one class and that that was a risk. The observer noticed a few other times when Henry seemed to be trying something new or putting himself in a "risking" situation. One time involved joining a student run fantasy trip, where everyone participating sat or lay down with eyes closed, while the observer and others were watching. Henry also used music in the last class in a way which seemed to be unusual for him.

D. I don't know everything. Henry told different students at different times that he had learned something new along with them. He told Beth that he had learned about a different way of working with the bulb and battery from her. After the groups had finished with their activities in the Super Stop and Shop, Henry asked the group which had

studied the electronic door what his role had been when he visited their group. One student said she thought he had asked questions the answers to which he had not known. Henry confirmed her thought saying, "I was seriously investigating right along with the group because I didn't even know those answers at all. And that was fine, because I learned a lot about electronic doors that I've never known before today." This category, like "Taking a risk" is hard to notice. Henry needed to verbalize his modeling for people to know that he did not previously know something and was learning about it with them.

E. Process being as important as content. Henry worked on helping the students understand what process was and how important it was, in three different ways throughout the course. First, he modeled telling learners the reason why a teacher would do such and such an activity.

> The reason I'm doing this, if any of you are wondering, is because very often people are given resources and said, hey, this is a wonderful book, go ahead out and use it. I want to make absolutely sure that when I go through a resource like this that you know what you are getting.

Second, he used science activities which dealt with process. And finally, rather than tell the students that process was as important as content, he continuously asked the students what they had just done and why they thought they had done it, in order to help them think about process. Examples of his asking them to process an activity included his saying "what do you think our purpose was in getting you set like that [lined up by birthdates]?", or asking as the last question on the

homework , "Why do you think we asked you to do this entire activity?" or "So what did we do this morning?" (when talking about setting up environments). When Henry focused the students on the process, he often was also making them aware of the modeling he was doing.

F. Trust students/give responsibility and choices. Woven throughout the course was Henry's belief about trusting students. He modeled this belief by constantly giving them responsibility and choice. The students organized how they were going to plan the overnight trip and then proceeded with their planning which included organizing transportation, food, money, and activities. Often during the course students chose with whom they wanted to work and what they wanted to do (e.g. which test to use on the paper towels). They chose groups and then groups chose which Project Learning Tree activity they were going to teach to the rest of the group.

G. Final responsibility rests with the teacher. Although Henry modeled trusting students he also clearly modeled being the one ultimately in charge. Although the graduate students would facilitate different parts of the day, Henry was always the one checking his watch and keeping them moving along to different activities. He made sure there were enough cars to get them all to the local environmental center, counted heads after coming out of the conservatory, and made sure that the student groups were ready to teach the whole class the next week.

H. Responsive environment. Observations of this category are presented in the four sub-categories Henry established of materials,

teacher, flow in classroom and clean up, and then observations about the class having a safe environment are presented.

1. materials. As the students worked with activity cards in the Super Stop and Shop, and the orchard, they were interacting with materials which would give them immediate feedback. They accomplished their tasks right then and there. The "mystery challenges", such as the cow jaw bone, the mealworms, and the mirrors, were all activities in which the students did not have to wait for responses to their actions. All of the materials Henry used in the class gave immediate feedback to the students. For their homework experiment, when the students could have picked a long term experiment, in which they might never have seen any results, Henry or a graduate student met with each student in a small group to help make sure the experiment chosen would not be one with the built-in frustration of no tangible results.

2. teacher. Henry modeled being a responsive teacher continuously throughout the course. He asked questions which involved giving more than one answer and which built on what the students had just said or done. When the electronic door group in the Super Stop and Shop seemed to be slowing down in their investigation Henry asked, "Did you find how wide the spot is?" and the students started talking about and exploring that question. When the students talked about their worst past experiences in science, Henry often asked a follow-up question which brought out more information from the students. After a student talked about having fears about science, Henry asked, "Where do your fears come from?"

Besides his questions responding to what students were saying or doing, Henry's comments and actions did as well. He would watch carefully as the group worked and bring in a new piece of equipment if they looked like they were ready for it. Henry's comments to people after they contributed in class were positive, encouraging ones. "Good", "interesting point" "good question" "That's an interesting one" are examples of the types of comments he made. Even when he had made a positive comment Henry would often turn back to the rest of the group and ask for another answer or idea. In this way he focused on the fact that the students were all thinking and contributing, rather than that one answer was the "good" answer and no one else needed to bother to try answering.

Henry did model using wait time when asking questions. A couple of times he articulated that he was waiting on purpose and even counted the seconds to demonstrate that he was waiting. At a few other times Henry's modeling was not as clear. He would ask students for ideas, one student would answer and then Henry would give his ideas, or he would ask a question, wait three or four seconds and then would either rephrase the question or answer the question himself. In the small discussion groups a student was confused about her experiment. Henry said to the group, "Somebody ask another question, to see whether we can help out on that." Then without any wait time he asked, "What ways do we describe soap or any object?"

3. flow in the classroom. When the students walked in the second morning there was an eye catching display on one table with a sign with

the directions about the activity. Students took their materials and worked where ever they wanted to. The chairs, without arms, were arranged in a horseshoe and there were three empty tables. Because of having plates to hold, most students just worked in the chairs. After a little while Henry brought in magnifying glasses and walked around and handed them out. For the start of every class and after lunch break, the materials were always systematically and carefully arranged on tables, in a way which spread people apart while working and so that no one lost time going and getting materials. At one point during the fifth class Henry stopped everyone while they were working with bulbs and batteries and asked "what did we do this morning [about set-up]?" A discussion then ensued about how the materials had been arranged and why it was important to plan about the distribution of materials with children.

4. clean-up. Since they were not in the classroom working during the first class, the first chance to model clean-up came the end of the second class. Henry and the graduate students did the clean-up at that time. On a feedback sheet that day one student mentioned wishing that the staff would have them clean-up, too. Henry mentioned to the observer, informally, that he did not know why he had not had the students clean-up also. For the rest of the classes Henry always had the students involved in cleaning up.

5. safe environment. Henry's classroom was the same one that Virginia had used, so the students were very familiar with their work space. (see page 100 for a description of the room) Henry's use of

humor contributed to the establishment of a safe environment. In every discussion he would add corny or silly comments, jokes or stories and everyone would laugh. He added extra, unusual events, like stopping with the students for a surprise lunch at a small campus dining area which specialized in international cooking, to which most students had never been, or doing a candle experiment for the class, so that when he lit the candle the class would sing "Happy Birthday" to one student on her birthday.

I. Adapt materials, don't throw them away. In terms of adapting science materials, Henry brought out old camera lens for the students to use as magnifying glasses. Although Henry does not use a certain published science series, the researcher knew that he had taken the idea of the learning cycle from that series and adapted it for use with students. He did talk to the students about focusing their energy on what they liked best about curriculum materials and "making the best of it", rather than wasting energy "trying to knock something down".

J. Self-learning. Henry modeled this category during every class. He set up activities in which the undergraduates interacted with materials and information. They learned about mealworms, and observation in learning by working with mealworms. They had first hand experiences with assimilation and accommodation working individually with the mirrors. With the bulbs and batteries activities, and with the Rube Goldberg inventions, the students were challenged to learn about circuits and energy transfer by themselves. Rather than being told about what activities were in the Project Learning Tree book,

small groups of students were required in small groups to choose one of the activities and teach it to the rest of the class. They learned about the scientific process by going through the process themselves and then articulating what they had done. All of the classes were centered on the students and their active involvement in their own learning.

K. Cooperative learning. Students worked individually and in groups, both large and small, in Henry's classes. In the large groups many of Henry's questions focused on gathering different answers rather than on finding the right answer and stopping there. In that way students were encouraged to listen and learn from each other as well as from the staff. Many of the activities were set up so people could work in pairs exploring mealworms, or writing evaluation limericks. When people worked individually with bulbs and batteries and mirrors, the materials were arranged so that they worked next to one another and facing one another. When Henry floated from table to table during those work times, his comments and questions were sometimes posed to individuals and sometimes to a small group working in the same area.

L. Asking them to think. Because Henry based his class on inquiry, the students were always being asked questions to challenge them to come up with an answer or an idea. Sometimes Henry's questions focused on content, "How could you find out how much space it (a bar of soap) takes up?" At other times they focused on process, "Why do you think we asked you to do this entire activity?" The activities also challenged people to think because the students had to create

inventions themselves or design a way of testing paper towel attributes they had suggested. The students were not just following directions, they had to come up with directions themselves.

M. Leaving things dangling. This category was hard for the observer to understand, even after asking Henry about it for a second time. The researcher felt that any behavior which seemed to belong in this category also fit in the category of "Uncovering curriculum". Henry introduced many topics and ideas, and by giving them a "taste" of what they could do with mealworms or Goldberg inventing, might have encouraged them to continue exploring with them another time. Henry did send a bulb and battery home with each of the students, so that the students could keep working with them if they wanted to.

N. Using my strengths. Because Henry never articulated in the interviews or in class what he thought all of his strengths were, the behaviors to fit in this category were harder to designate. Because the observer had watched Henry during other classes and in other contexts, she noticed certain behaviors which Henry used more often than others and which the students mentioned in their interviews when they were talking about his style. Those behaviors became the core of this category. Henry's sense of humor and use of humor affected many of the categories listed above. He used humor to poke fun at science content, to lessen fears about science, and to create a relaxed atmosphere. He also told stories, to introduce humor into a situation or to make a indirect point. Henry's relaxed and friendly approach with people and his listening skills seemed to suggest that working one

on one with students is one of his strengths. Henry said in his initial interview that he was not a good lecturer; therefore he did not lecture a lot as a teacher. Henry's classes had very little straight lecturing in them. The classes did have a lot of humor, stories and one-on-one interaction between Henry and students. If those are some of his strengths, he modeled using them often during each class.

O. Integration. Every one of Henry's classes had some integration of curriculum areas. Sculpture, drawing, painting (in Project Learning Tree and creating awards activities) were incorporated, as was math, (in the paper towel testing and the orchard activities), and reading and writing (in the reading aloud, limericks, "mystery challenge").

P. Many modes of learning. All of the science methodology classes offered a variety of ways for the students to learn. The dominant mode was active, hands-on, experiential education. The students went to the Super Stop and Shop and actually worked with an electronic door, cereal boxes, and cheeses, rather than just being told about those types of activities or discussing them. The "What's in the Bag", product testing, mealworms, bulbs and batteries and the Project Learning Tree activities all stressed hands-on learning. Henry also provided other types of learning. They had small group discussions about their best and worst science experiences, and also about their experiments. They examined published science series, and wrote about and discussed them. The large group discussions incorporated visual work on the blackboard and presentations from individuals and small groups.

"Working On" categories - Observations.

A. Impatience. Usually Henry did balance on that fine line between helping students learn and giving answers, something which he had talked about in his interviews. In one instance a student asked a question. Henry started to say something and then said "What do you think?" The student answered and then Henry asked a more focused question, "In what ways may things be different?" The student answered again and Henry affirmed the thought and then added his idea too. "I agree with you. In my mind...it is a chronological thing as well." In this example Henry first helped the student come up with some ideas and then added his idea to the discussion. During the bulbs and batteries activities, Henry checked with Ken, who was having a hard time getting the bulb to light, three different times. Henry mentioned to the observer that he did not want Ken to get frustrated, but since Ken seemed not to be frustrated, Henry would leave him alone. Henry did talk about batteries and electrons when students asked him to explain about them.

As recorded in the observer's comments about Henry's responsiveness to students in his wait-time, at some points Henry seemed to be less patient in his waiting for students to come up with ideas and answers. (see page 195 above) After the third class Henry said that for that class they had "planned too much for one period of time." That day, during the small group discussions about experiments, Henry often gave students time to think and answer before coming in with his input. Sometimes he asked questions and then did not wait

before answering them. The observer felt some ideas were being covered so quickly that she came out feeling confused about what exactly had been discussed. Throughout that time Henry kept checking his watch and at the end of the discussion he said, "We are only 5 minutes over, I think we have done real well." The next week Henry and the graduate students had planned for fewer activities to happen during the class, and the observer noticed that there was lots of time for questions and suggestions in the discussions.

B. Following through on expectations. With the exception of not having the students help clean up during the second class, Henry seemed very conscientious about following through on his expectations. On the syllabus which he handed out the first day, the expectations of participation, being on time and getting homework in, were clearly stated and he went over those expectations with the class. He indirectly said he was modeling being a professional. "It is part of being professional, when you teach a class, to start promptly and...end promptly." Throughout the course Henry made sure that he and the graduate students kept moving along with the schedule for the day, and seemed nervous and said he was concerned about ending the day late by ten minutes one day. All other classes started and ended on time. Students were asked to help clean up and were reminded if they did not. He talked to students who came late or missed class, about the importance of their being in class and also made sure that they made up missed work.

C. Self-illumination. After getting to the Super Stop and Shop at

the beginning of the first class the first comment Henry made let the students know about his feelings at that time.

> One thing that I kind of feel like in a way is that I am joining a party that is already started, because I've missed you for the last six, eight weeks...I even find I [might] have to do a name game thing again. I have to catch up...

The next week he asked the students to help him with a problem. He was going to be going abroad after the semester, and where he was going it was impolite to put your hands in your pockets, and Henry always put his hands in his pockets. He asked the students to tell him whenever he did put his hands in his pockets to help break him of that habit. As a student reminded him a couple of minutes later, he admitted that making the change would be a problem for him. Henry would also admit to making mistakes. Henry gave directions to students before the graduate students came in from lunch and after talking to Chuck and Mariah realized he had given the students confusing directions. Henry told Chuck and Mariah "Why don't one of you then clarify it, because I think I may have messed them up.?" A little later in the afternoon the students were under a false impression about one published series and Henry announced to the group, "As a matter of fact, we misled you on that", and went on to explain. In one case Henry used his mistake to clearly model and articulate that teachers sometimes make mistakes.

> I'm sorry...I should have brought it [the wire on the battery] out to here. It is really important when kids ask questions, because I really confused that issue....I was talking about analogy and you picked [the mistake] right up and that is good and that is another reason you want to get your class going

for the kids to feel free to ask questions.

D. Articulation. Henry did not mention specifically that he was modeling very often. He did point out the reasons why the students were being asked to do a certain activity or why he was doing a certain activity. These examples of articulation are discussed above under his category of "process being as important as content." When Henry was facilitating his small experiment group he indirectly told the students he was modeling, by asking them to focus on what he was doing. He asked, "Does anyone have any clarifying questions for Ken?" and after waiting a moment asked, "Have you been listening to the kind of questions I have been asking?" At that time Henry was indirectly telling the students that he had been modeling questioning techniques. The observer realized that Henry was describing his modeling, but was not sure if all the undergraduates were aware of what he was doing. Henry did refer to some of the activities the students did as "examples". "We try to use a different way of getting feedback each week....This is another example of how you can get some feedback." Those statements suggest to the students that Henry is modeling, although he does not directly state that he is modeling techniques and activities for the undergraduates to use with children. Usually any clear articulation about the fact that he was modeling was made by Henry as a verbal "aside" to the participant observer.

E. Different types of evaluations. For five out of the six classes, Henry did engage students in evaluation of some sort. The first class ended with Henry asking the students why they thought that

the staff had taken them on the field trip, and he received verbal feedback about the day in that way. For the second class, the students were asked to write about two ideas, starting with the statements "I'm glad that you...because...", and "I wish you had...because". After another class the students filled out the published evaluation form which went with the Project Learning Tree workshop. Henry had the students, in pairs, write a limerick about the fourth class and present it to the whole group. There was no type of evaluation for the fifth class and the students filled out a State University required evaluation about Henry during the last class. That evaluation he would not see. The committee which was looking at his nomination for the Distinguished Teacher Award asked for that evaluation to be written.

Perceptions of the Undergraduate Students of Henry's Modeling

The first section of this case study consisted of Henry's thoughts about modeling and then presented the beliefs, attitudes and practices Henry felt he consciously modeled in his science methodology class. The next section presented the observer's documentation of those behaviors Henry displayed in class. Again, as with the observations of Virginia's class, the observations of Henry's class supported the idea that Henry was, for the most part, modeling his professed beliefs, attitudes and practices in his class.

As with the previous case study, the undergraduates' perceptions of Henry's modeling are of central importance to this study. Background about the students who participated in the in-depth

interviews and a review of the methodology used in collecting their perceptions were presented in Virginia's case study (pages 129 - 133). The students' general ideas about modeling are presented in the last section of this chapter. In this section the undergraduates' specific views about Henry's modeling are documented.

Undergraduates' perceptions of the categories created by Henry. In the in-depth interviews, the undergraduates made comments about 18 of the 28 categories and sub-categories Henry felt he modeled. If they had been given a check list of behaviors the students may have noticed or commented on more of Henry's categories. The comments they did make came through their own words and from their own points of view.

The list of Henry's categories appears below (Figure 4) with the number of comments made by students in the course and by the student teachers recorded in columns next to each category. The numbers reflect both the comments in which the students talked of noticing the behaviors of the categories and the comments in which the students specifically linked the observed behavior to modeling. The student teachers were formally interviewed only once and they were looking back to the previous semester as a whole, so the number of their comments is not as significant as the fact that they mentioned the category at all. Below the chart the specific perceptions of individual categories are presented. Later in this section the students' perceptions of the categories Henry is "working on" are presented.

FIGURE 4

Henry's Categories and Number of Student Observations of Behaviors in Those Categories

Henry's Category	Number of Student Observations	Number of Student Teacher Observations
Beliefs, Attitudes and Practices Modeled about Science Teaching		
A. Science isn't full of information and facts that are cast in stone	–	–
B. Science is something they live with everyday	5	1
C. Science materials from the environment	3	1
D. Not taking content too seriously	–	–
E. Curriculum materials consistent with philosophy in kind and chronology	–	–
F. Treat animals with respect	–	–
G. The learning cycle	–	1
H. Enjoying science	3	1
Beliefs, Attitudes and Practices Modeled about Teaching in General		
A. Flexibility based on data and children/ self-evaluation	5	–
B. Uncovering curriculum/inquiry	4	3
C. Taking risks in learning/trying something new	–	–
D. I don't know everything	1	1
E. Process being as important as content	1	–
F. Trust students/give responsibility and choices	8	4
G. Final responsibility rests with the teacher	2	–
H. Responsive, safe environment		
1. materials	–	–
2. teacher	4	1
3. flow in classroom	–	–
4. clean-up	1	–
5. safe environment	3	1
I. Adapt materials, don't throw them away	–	–
J. Self-learning	3	1
K. Cooperative learning	1	1
L. Asking them to think	1	2
M. Leaving things dangling	–	–
N. Using my strengths	–	–
O. Integration	4	1
P. Many modes of learning	2	1

"Science teaching" - students' perceptions. The categories of "Science isn't full of information and facts that are cast in stone", "Not taking content too seriously", "Curriculum materials consistent with philosophy in kind and chronology" and "Treat animals with respect" were not commented on by the undergraduates. They may have been aware of Henry's modeling of these categories, but did not articulate them. As Henry suspected the undergraduates also were not aware of his modeling "Taking risks in learning/trying something new".

B. Science is something they live with everyday. Trinka was clear that one thing she had learned from Henry through his modeling was that "science is everywhere". Henry helped her learn that idea by taking her to the Stop and Shop and the orchard, and showed her that she could learn about science in those places. Trinka also realized that doing her experiment at home was another way of seeing that science was everywhere.

Beth, like Trinka, commented that "science is really everywhere you go". When asked how she had learned that idea, Beth said this was because on the first day of class they had not spent five minutes in the classroom, except at the end. Instead they "had learning centers within the community". Beth said, "We went to the supermarket, there is plenty of science going on there." She then talked about also taking children shopping to learn about science. Because Henry had modeled taking students out into the community to find science, Gary said that when he went out to the mall he looked at the stores, not as a place in which to shop, but as a place to find science.

Frank felt that the class had been a eye opener because he learned that you "can create hundreds of experiments by just looking around". He learned to do that because the staff of the science class asked him to create his own experiment, focusing on something about which he was curious.

C. Science materials from the environment. Frank learned to look around him to find science experiments (see above) and he while he did that he learned that the materials for those experiments could come from household materials.

Trinka commented that Henry used everyday things in science, and she wanted to use them with children. "It is not every day that you go to the museum, but it is every day that I use paper towels...and go to the grocery store and walk around campus. So I can see myself...very easily using that."

Beth also felt Henry showed them that they could use resources that were every day resources, with science. She was impressed that he had collected many different comic strips to use in presenting Piaget. "I thought it was interesting that he kind of showed us, look what you can do with your resources that you have every day....It was showing me to use your resources."

Some students broadened Henry's category to include using science materials from other sources in the environment. Gary felt he had learned about using other resources in the community from Henry's modeling. He said he had learned to "find out about resources in the community....Make sure you know about things around that you can use as

a teacher with kids - ask people." Gary learned this by Henry taking them to an international foods dining hall on campus, to which most of them had never been.

> If he just said go out into the community and find out about resources, we would have said ok, that sounds like a good thing to do, but we might not have thought twice about it after we left class. But actually reinforcing it with a trip to a new place where nobody had been before would show us that the resources in the community are good for kids to find out about and for teachers to bring kids to....He modeled it definitely.

G. The learning cycle. Frank's first thought about what he had learned in Henry's class the spring before centered on the learning cycle. He saw using the learning cycle to "give the kids a chance to do their own exploring first, on a given concept, and then jump in and give any instruction that may be needed or any direction that may be needed." This way of learning centered on the children learning first through inquiry and exploration, and then having teacher input. Frank learned about the value of the learning cycle because of an incident in the science methods class. The undergraduates were to take a lesson from a published science program and develop a lesson plan using the learning cycle. Frank said he went off on the traditional way of the teacher, explaining everything. After he had done his lesson Frank realized on his own that he has not been using the learning cycle. Then he realized

> that was really what Henry was letting me do, letting me find out by myself and...up until that point I certainly was not going along with the way he had hoped, but I was still doing my own personal interpretation of what he wanted. I wasn't on

> line, with what would later be in the concept, introduction of concept, application, but I was still doing, but I was still given my own chance to do what I thought, what I saw.

Frank was not sure if Henry intended to work with him that way, but that is what had happened. Frank also generalized the use of the learning cycle in his student teaching experience. In his social studies unit, Frank used the idea of the learning cycle by having the students explore on their own with writing and drawing about cities before he introduced concepts and facts.

H. Enjoying science. Two students felt that they had learned to be less afraid of science in the science methods class. April learned to like science by being in the class and doing science activities, such as the "mystery challenge" and conducting her own experiment, which she felt were enjoyable. "I learned to enjoy it, it didn't have to be super serious, sitting down in a lab..."

Beth had been worried at the beginning of the course. She was concerned about what Henry was going to make them do, because she was not the "greatest at science". After the second class Beth wrote on her feedback sheet that she was glad that Henry had given the students the chance to sit in small groups and discuss their past science experiences. She said that she had "always dreaded going to science" and then thanked him "for helping me to begin to get rid of my bad feelings."

The students did not talk about Henry's modeling this attitude, but did talk about the activities and environment he provided which helped them to enjoy science.

Julie thought that Henry modeled being excited about learning, and about school in general. She enjoyed his excitement about taking them on the "Magical Mystery Tour", and she saw that she wanted to be that way with children. "I have to model that kind of an image too, that I must be excited to get my students interested too. I mean, he was excited and he got me interested."

"Teaching in general" - students' perceptions. Students had comments about 14 of the 20 categories and sub-categories Henry had developed about teaching in general. Two sub-categories of "responsive materials" and "flow in the classroom" were not mentioned by the students, and the four categories of "taking risks in learning/trying something new", "leaving things dangling", "using my strengths", and "adapt materials, don't throw them away" were not mentioned either.

A. Flexibility based on data and children/self-evaluation. No student commented about Henry changing the schedule or course outline because of the data he had picked up from them, but three of the four undergraduates in the methods course did notice him being aware of their individual needs.

Beth had a medical problem and she said she knew that Henry had made it his business to know "what was wrong with me and what to do", before they went on the overnight. She felt he modeled being aware of peoples' needs and that she will do that as a teacher, too.

Julie felt that she and Beth had gotten a very difficult activity card to do in the orchard and that Henry had been aware of which group

would need more help and made sure that he joined their group. She thought that as a teacher she would try to make the majority of activity cards be ones which the students could work on without assistance, and have one card which would be more difficult, and then help the group with that card if they asked for help.

Gary was late for class one day and was very impressed that Henry came to find out why. Gary wrote on his feedback sheet that day, "I am glad that you...took the time to find out why I was late for class." Gary was late to class another time and Henry talked to him again. Gary thought that Henry really modeled taking an interest in the student.

> I'm usually late to his class, I was. And he took the time to come up as I was leaving, out to the car and asked if there was anything he could do to help me be on time to class and showed that he really cared about my being there and wanting me to be involved with everything that happens with his class. So that motivated me just enough to get up in the morning, to tear myself out of bed....I don't think I've been late since then.

Gary saw that Henry was modeling something that he could do with children.

> When I am teaching I should take the time...and show them that you are actually interested in their well being and their being there and what they are thinking, they will see that...and they'll think more of you and probably do more for you.

B. Uncovering curriculum/inquiry. Katy mentioned that she was given a taste of many topics and then encouraged to learn more about them.

> After every single class I just came out, "wow, I can't wait to find out about this tree, I just can't wait to find out about this"...we always left with some kind of question...that would make us go out and say, "I can not wait to find out about this leaf, I cannot wait to find out about the human body"...something that really provoked me to go out and learn about it....I think that is probably what I thought education was all about when I started. It was just kind of a core and outline, but it's not everything you need to know. It's the questions you need to know to learn. And I think they modeled that really well, exceptionally well. And I really, really benefitted from that.

Trinka had a hard time articulating one idea, but it seemed to fall in this category. "The questions he is asking us, the places he is bringing us to, makes me think of, I want to learn more about it." This idea might also go under the category of "asking them to think" and perhaps "leaving things dangling".

Other students did not mention noticing Henry modeling "Uncovering curriculum", but many of them were clear about his modeling the use of inquiry.

Julie said that Henry taught the kind of science that she "always thought was appropriate for elementary school." The science involved "exploratory kinds of things", and she learned about that type of science by watching and listening to Henry. Beth also thought that she had learned that doing experiments had to incorporate "lots of room for kids to make discoveries" and one way she learned that idea was by being allowed to make discoveries in her own experiment. Gary also mentioned that he felt Henry was teaching them about "discovery teaching".

> We were given a set of guidelines with questions which were very open-ended and then we were told to go to a certain place, area, and just find out as much about the area that you could....[The questions] were challenging our thinking and we could ask ourselves questions and we could think about it and do the activities.

Gary felt that he learned about the "discovery teaching" by actually having Henry lead them in activities involving inquiry.

Frank saw inquiry as a central part of the "learning cycle" He also thought that the "mystery challenge" dealt with inquiry. "Mystery challenges were open-ended, most often did not have one answer, and allowed the student to think on their own and come up with their own conclusions.

D. I don't know everything. Although several students mentioned that Henry was modeling being interested in what the students were doing and saying, only two mentioned that they thought he was saying "I am learning too, or let's find out together." Beth remembers that he came up to her while she was connecting her bulb and battery and had said, "'That works?' Like he had no idea, but he wasn't afraid to say that he didn't know. He...picked it up and he goes, 'Oh can I see that?', and he checked it out..." Beth immediately thought of how that idea pertained to working with children. "So it is a two way discovery...and you find out that some kid's going to find out something you had never even thought of and that is great because that adds to your knowledge also."

April said that she learned in Henry's class that "You can learn with the children while you're [teaching], doing a unit or something,

and it would probably stick in your head more because you learned with the children." April learned this idea by being involved in an activity in the class. Henry had invited an elementary school teacher to come in and lead the class in a activity. One student played the role of a child bringing in a butterfly to school and the teacher modeled how an elementary school teacher can learn with the children about the butterfly. "She showed us by saying, now, I don't know everything about this butterfly, but...we'll learn together." Using books they had in the classroom, the undergraduates then compiled information with the teacher about butterflies.

E. Process being as important as content. Only Julie mentioned this category. She had been impressed with the fact that Henry had stopped the group during the first class and had them think about what they were doing at that time and talk about what they were doing, rather than just doing the activities. She felt she had learned about reflecting on and verbalizing about activities, because she experienced doing that herself.

F. Trust students/give responsibility and choices. Many students talked about knowing that Henry had trusted them and had given them responsibility with the overnight planning and on the overnight, but some of them did not talk about that experience as a time that he was modeling. They may have felt that he was modeling, but did not articulate that to the researcher.

Beth did verbally make the connection between what Henry was doing and what teachers could do. She noticed that he shared the

planning and running of the class with the graduate students. "Yes, Henry is the instructor for the class, but....I didn't see that he takes all the responsibility on himself, he oversees everything, but shares the responsibility, which is the best way to teach."

Gary learned about giving students choices about what they want to learn, and how they want to present what they have learned, by experiencing that himself. Henry took the students to a local environmental resource center in the city, and the people there had the undergraduates pull information together about different topics and create their own presentations for the rest of the group. Gary also talked of learning about trusting children to help out in the class through Henry's modeling during the overnight planning.

> He is showing us that we can rely on the kids' participation...to help us teach, through us taking over and doing all the planning and that frees him up to do other things as a teacher. He coordinated it...He delegated his authority to us as students and he modeled that it would work...not on such a large scale, but kids could help plan a field trip and things like that...

In addition, two of the three student teachers felt that Henry modeled giving responsibility and trusting students. Frank felt he already believed in giving children responsibility but throughout Henry's class that belief was reinforced. Henry reinforced the belief by the "way they presented science....turning over some materials and a general idea, a general direction, but then letting you, giving you the responsibility to come up with some logical conclusions." Frank gave other examples such as having to design his own experiment and coming

up with his own conclusions in an experiment with mealworms. "Again, allowing us to come up with the decision, but we had to back it and have some reasonable ideas of why we felt that way."

Katy felt that Henry modeled that "everyone is important in the class." One way he modeled that idea was that he "really gave a lot of space to...his team members."

G. Final responsibility rests with the teacher. During the planning for the overnight Julie saw that Henry was modeling "not getting involved, but he is keeping a hand on...". He did not come in and tell them what to take or do, but once they were out on the overnight he told them that he had called the police so someone would know where the students were if they needed to be reached.

Beth also saw Henry modeling that teachers are ultimately responsible for their students.

> From the moment we got into those cars, he was always making sure, is everybody here, do we have everything? And that is to show us that you have to make sure you have 1, 2, and 3....All of us were in charge of different groups...but I saw him as the overseer, making sure, yes this is going on and we do have the first aid kit....

H. Responsive, safe environment. The students did not mention any thoughts about the sub-categories of 1. materials giving them immediate feedback or about the 3. flow in the classroom.

2. teacher. Trinka felt that Henry modeled that he was interested in what the students were doing and he wanted their input. She mentioned learning to use different techniques for gathering

feedback, because Henry used different ways to gather feedback from the undergraduates. Trinka mentioned Henry's verbal questions specifically. In her small group's discussion about their experiments, Trinka said that she had tried to prepare for doing her experiment by thinking of what kinds of questions Henry would ask.

Gary noticed the types of questions Henry used on the activity cards. "The questions were open-ended so that we could really ask ourselves, they were challenging our thinking...".

Katy had focused on the fact that Henry accepted what the students contributed, but did not stress the positive reinforcement.

> Everything we did was a big deal and...yes, it was always understood when people really weren't trying...that was kind of given an ok and passed on. When people would really put their effort, their best effort into it, I think he was careful about being over exurberant....I think he really appreciated things and would say, that is really fine work... and he would ask us about it and he would really be genuinely interested.

Katy knew she wanted to be that way with her students.

4. clean-up. The only comment about this category came from Trinka in her feedback sheet after the second class when she said she wished Henry would let the students clean up too.

5. safe environment. Some students saw Henry creating a safe environment through his relaxed style. Katy felt "he consciously models the fact that it is ok to be comfortable with kids." Julie watched Henry because she liked his "easy-going manner" and felt that helped "get everybody relaxed and comfortable".

Beth thought that by taking the undergraduates to another

environment, the international dining hall, Henry got to know the undergraduates better and helped establish a feeling of community. Gary thought that the "ice breaker" game Henry had led during orientation also helped to create a relaxed, comfortable atmosphere in the class.

J. Self-learning. Frank felt that much of the science teaching Henry did centered on self-learning. The concept of the learning cycle, the science challenges, the work with mealworms and the student designed experiment were examples for Frank of

> getting away from real instruction and going, allowing you to think on your own....I felt that through the whole class...activities that allowed you to draw personal meaning, come up with your own ideas, draw your own conclusion.

Gary was sure that Henry was modeling self-discovery in the Super Stop and Shop. They had to do the activities and by "doing" they would find out for themselves. "We could have sat in class and he could have said, a good thing for you guys to do is to make cards and take the kids to the Stop and Shop, but he didn't do that. He brought us to the Stop and Shop..."

Trinka discovered that she personally learns "better when I am out there seeing things and doing things." She used the example of learning about science being everywhere, by actually going to the Super Stop and Shop and actually doing activities there, instead of just being told about the activities.

K. Cooperative learning. Beth talked about Henry having all the

students in the small discussion groups give input to each other about their experimental designs, and she thought that to have children give each other input was important too. As she talked about working in groups with the bulbs and batteries, she realized that they gave each other moral support and information. If she had had to work alone, she thought there would have been much more pressure and less discovery.

> We all learned more than what we were doing right in front of us. We learned something from everyone,...not only do you learn what you are doing, about what you are doing, but you learn about what other people have discovered, you know, double discovery.

Beth then realized that all semester in all her methodology classes they had been working in small groups and she started talking about how she was going to teach her swimming classes the next summer using small groups.

Katy was very aware of Henry's modeling of working in groups. "The whole cooperation thing...I think he felt really strongly about and modeled that real well." She said he modeled it by having the undergraduates "almost always doing small group activities, projects, that we would present to the class." Then the staff would have them pick a different group to work with another time. Katy felt that the reason that the modeling of cooperative learning worked for Henry was "because he is such a cooperating guy."

L. Asking them to think. Beth was struck by how Henry helped them come up with their own experiments.

> He kind of made you think about all the questions that went with that experiment and tried to make you think of...what methods are you going to use in order to get to a conclusion, to find something substantial... he made us think.

Beth immediately translated the idea of making them think into how to help children think about experiments.

Katy thought Henry consciously modeled having the science challenges to stimulate thinking. She also thought that the types of questions he asked were challenging; and because he did not give out answers, it meant that the students were furthered challenged.

Frank also remembered the science challenges, as a way to get students to "think on their own". Frank had already tried using some of the challenges he did in Henry's class with children in his student teaching experience.

O. Integration. Julie talked about the math activity card she did out in the orchard. Although she did not speak specifically about Henry modeling integrating curriculum areas, Julie thought the activity was an excellent one and considered it "a way of sneaking mathematics in, in a nice way".

Beth clearly saw how Henry was integrating curriculum areas.

> I had to read...I had to figure out mathematical calculations, I had to physically go out and measure things...we were given a paper and a pencil. And art was even in it. We had to take rubbings of the tree and of leaves....everything was incorporated.

Beth thought that she wanted to integrate curriculum areas when she taught, too.

Gary had experienced themes in Henry's class and seen theme teaching in one of the local schools and liked the way that different curricula were integrated into themes. "Theme teaching is a good way to integrate social studies, math and language arts...because you can start with something and then go at it from a math point of view or a language arts point of view." When he first talked about integration Gary was a little confused about having a topic for a day, defined as the focus for the class, and having a integrated theme, incorporating many curriculum areas. While he talked he seemed to straighten those ideas out in his own mind.

April quickly mentioned that she was aware of using integration with science. After saying that she had learned that science could be fun she added that "you can put a lot of other subjects into it", too.

P. Many modes of learning. None of the students talked about Henry's modeling many different modes of learning, but a few mentioned liking specific different ways of learning that they did in class. Gary felt he learned some concrete hands-on activities, to use with children, by doing the activities himself. Gary and Julie both remarked about using the element of surprise in teaching, because of Henry's not telling people what was going to happen next during the first class.

Frank said that Henry's class reinforced in him a wanting to be creative in teaching. "I thought they were very creative and that really gave me the incentive to be creative too. Now, I very consciously, with every activity I get to plan, I try to do something

different, a new twist or anything." Frank decided that if the creative activities in Henry's class worked well for him he thought he would try them with his students.

"Working On" - students' perceptions.

A. Impatience. Beth and Katy made observations about this category. Beth felt that in one class when Henry was showing slides he covered many ideas, yet did not give the students a chance to ask questions or ponder over the slides.

> he talked a lot, too much sometimes. He didn't give us a chance to say something. The slides were going and you were so, you were reading the captions on the comics that you really weren't, sometimes you lacked making that connection...

Katy, on the other hand, felt that Henry gave her opportunities to come up with ideas herself.

> Another thing that he really modeled was that he never gave the answers...[after the students put guesses about a skeleton in a box] he never said, ok, people who said the human skeleton were right, he said, ok, you know where to look it up. He never gave the answers, so that even challenged me further...and I knew that he knew all the answers...I really respect that in teachers, when they don't give the answers.

Katy certainly wanted to do that with children.

B. Following through on expectations. Although Gary mentioned Henry's talking to him about being late to class, Gary saw it as attending to his needs rather than following through on the class expectations.

C. Self-illumination. Trinka felt that because Henry had asked the students to help him not put his hands in his pockets he was modeling admitting "this is a mistake on my part" and asking "could you guys help me to overcome this?" She thought that put him "right up there with [the category of] top-notch person and teacher".

Katy thought Henry was being himself by always joking. She was not sure if he modeled it consciously or unconsciously, but she was sure that he was modeling "It is ok to be yourself and it is ok to have fun."

D. Articulation. Trinka mentioned at one point that she thought Henry was aware of modeling, but then

> got so involved in what he was teaching, that modeling was way far in the back of his mind...and then when something would strike, it would be like oh yes, I'm supposedly modeling "dadadada" and he would go on to explain what he is modeling.

No other student mentioned that Henry had talked about modeling.

E. Different types of evaluations. Trinka noticed Henry's use of different ways of evaluating and appreciated his using them. Her comments are recorded under the above sub-category of "teacher" under "responsive environment".

Student Views on Modeling

So far in Chapter IV the data from both case studies have been presented. Within each case study the faculty's thoughts about

modeling in general and the specific beliefs, attitudes and practices they consciously try to model in their courses have been included, along with the observer's and the undergraduates' observations.

In this last section of Chapter IV the undergraduates' thoughts about modeling in general are presented. Included in this section are their thoughts about what modeling is, modeling as a reinforcement of what they already know, how they generalize what they see to their own teaching, the changes they would make during that transfer, and how they see modeling being used in teacher education.

The researcher deliberately did not offer a definition of modeling at the beginning of the initial interviews so as not to direct the students' line of thought. The researcher had explained a little about the study when inviting the students to participate and the faculty had referred to modeling during the orientation days. The students seemed to come to the interviews with their own preconceived idea of what modeling was, but did not present a clear, well-defined idea of what they thought modeling entailed.

When they were first asked what modeling they saw occurring in the methods courses, the students initial responses centered on physical actions and gestures of the faculty. Three of the undergraduates' first example of modeling had to do with Virginia's reading and speaking style. Gary spoke of

> her actions...when she was reading the story, you could see her, the way that she came across would be the way an elementary teacher would come across to a class, like really enthusiastic, a lot of eye contact, a lot of gesture of the hands....She was

modeling that for us too.

Trinka also first mentioned the reading aloud. "I see her telling her story....it is so much in the facial expressions". Beth said, "She is an actress, in a sense, has her own style and is very energetic..." Julie mentioned the way Virginia stood and what she did with her hands.

The students were clear that the way they could learn about the faculty's modeling was to watch every movement the faculty made. Many of the behaviors they saw as being part of the faculty members' personalities or styles. The students were not clear about whether those behaviors were being modeled consciously or unconsciously. As they went beyond first impressions, having been in the class for a longer time, and had been teaching in their prepracticum situations, the students were more certain which behaviors were being consciously modeled. Julie commented

> when you interviewed me [the first time] I was like, oh, she stands like this...you get caught up with all these really physical front kind of things that hit you first, but because I have taught, I do, I did, consciously think about, now what if this was me, how would I organize this...

When the researcher asked what beliefs, attitudes and practices the students thought the faculty consciously modeling, the students seemed to get confused by the ideas of beliefs, attitudes and practices. When the researcher just asked what did the students see the faculty modeling, the undergraduates had many observations.

Trinka, Julie and Beth mentioned that they felt that the faculty

were modeling in order to give the students examples of what they could do with their elementary students, but were not saying "imitate exactly what I am doing". Trinka said, "that is one thing she doesn't do - see, the teacher does, ok, you do as teachers...,she doesn't say that." Beth felt the faculty were hinting at ways of teaching, but not saying "you have to."

> The good thing about her modeling is that you don't have to do it. It is suggesting. Nothing we do in that class...is a must....It is such a joy...to go and to learn from someone who is modeling to you how she wants others to learn, but there is no real deep pressure.

Julie saw that there was a fine line between the faculty's telling students that they should do things the way the faculty do and the faculty suggesting a way to do things.

> You have a teaching method, you have a style, you use it. Whether you feel the position is tyranny...,if this is what you want your students to do and you are doing everything you want your students to do or if you are thinking, this is my strategy, these are my models, these are my techniques, I'm going to show people how I do it and maybe they'll do it other ways, but it is ok, but I'm showing them that I have definite plans.

Julie felt the faculty stayed on the side of the line which presented ideas and practices as suggestions, rather than "right answers."

All the students said they felt very comfortable with the faculty's use of conscious modeling. Trinka said she felt very comfortable with the conscious modeling she was observing. Because she was a participant in the study, she felt she was observing more

carefully and thinking more about the modeling. Because of that awareness, Trinka felt she might not be as comfortable with the unconscious (negative) modeling she thought was happening. Beth felt that she knew there would be modeling in the courses which she would not want to use. "I've learned how to pick out the good from the bad."

All the students talked directly or indirectly about the fact that they learned many ideas and activities from the modeling, but that they also felt that the modeling was a reinforcement for what they already believed or practiced. As Beth talked about Virginia modeling wanting feedback from students, she said, "I found that out all by myself, that is my personality, that is me, I've done it, but here is someone doing it and it is a good thing to do, because you like it and because you've seen someone else do it." Virginia's reading aloud reinforced Trinka and Frank's belief that children should be read to everyday. Trinka knew she wanted to gather feedback from children, but did not know ways to do that. So her idea was reinforced by the faculty's modeling and she also learned specific ways of gathering feedback from their modeling.

Gary felt he had already known about "discovery teaching", but Henry's class reinforced and expanded upon the idea for him. "I didn't think it could be a whole day thing, but he had it set up so well that it could happen...I saw that it could work in the sciences."

Frank felt he had given the children with whom he worked at camp a lot of responsibility and time to find personal meaning in what they

did, but that the science class really reinforced that idea for him.

As Katy looked back to her methodology courses she thought that the modeling had taught her things and reinforced ideas and beliefs she already had.

> I think with all of it, it was a little bit of both. I think when I saw the program...I jumped right out of my pants, I thought it was so great, just the basic philosophy to begin with. I think one of the reasons that...I've kept so much of it, was because it hit home so many times and there...was never any controversial issue that I felt like I totally disagreed with...from things like classroom management to curriculum development....I thought all the things...that were modeled were pretty much consistent with what I would do.

Julie's views agreed with Katy's. She thought she might be aware of only those things which she considered important. Julie felt she wanted to have eye contact and wait-time with students, as Virginia did.

> I personally would want to do that, so maybe that is the key, you pick up on somebody else things that you have already established are important. I could be missing a whole section of things that might not be important to me, that they might be trying to model.

The students felt they did learn different beliefs,attitudes and practices from the faculty, although most of the time when they talked they did not specify whether what they learned was a belief, attitude or practice. They also felt many of the beliefs and attitudes they saw modeled were beliefs and attitudes they already had about teaching and children and the faculty's modeling just reinforced those beliefs and

attitudes or taught them new ways of carrying out what they believed.

The undergraduates took many of the ideas they had learned and/or had reinforced by the faculty's modeling and transferred them to their thinking about the situations in which they had already worked, or, in actuality, to their prepracticum settings. Beth referred many times to how she would take what she learned and apply it to teaching the swimming instructors with whom she worked in the summer. Frank used his summer camp job as a reference and commented how he would use a specific technique the next summer. All of the students used examples from their prepracticum sites about how they were trying a technique they had learned from the faculty or how they saw behaviors a faculty member had modeled also being modeled by their cooperating teachers.

Trinka, Gary, and Beth all said that they saw themselves as models for children, and were aware that they were always being watched too. Gary thought that he would be "more aware of my actions, actually what I'm doing and why", because of his watching the faculty modeling.

Along with talking about using the ideas and behaviors in their own settings the undergraduates also talked about how they would not use some of the ideas or behaviors or would change or modify what they had just seen to fit their own style of teaching. Beth said,

> Some of the things I wouldn't do in a class and, that is my opinion and my feeling on it, and I don't have to do everything how they model to us. You have to find your own style, but everything you have to take in and know what you have and what you don't have...

During the different interviews Beth mentioned not feeling comfortable

putting up an agenda every day like Virginia did, and letting children create learning centers, but also said she would save her judgment until she herself had tried out those techniques. Julie also voiced a need to first try out ideas before she would accept, reject or modify them. "I learn by trying what others, what I see others doing. You just have to weed it out eventually, it is a long process."

The undergraduates did want to try out ideas and activities, but felt that they had seen the ideas and activities in action in their methodology classes and that trial gave them initial feedback about whether they did want to try them in their own classrooms. Frank commented about experiencing creative ideas in Henry's class. "Look, these work well for me [as a learner] and maybe for other people, and that type of perspective...I think could work for others too."

All of the students were enthusiastic about wanting conscious modeling to be used in teacher education. The major reason why they felt they wanted modeling to be used was because they thought conscious modeling was a very effective way to learn about how to teach. Garv was concerned that just telling students about teaching would not work with such a complex profession.

> Teaching is a profession where you are...interacting with people and you are changing your work. There are too many variables as far as when you are teaching you have to change a lot of what you are going to do, so for someone to just come in and say this is how you should teach and...to copy it on to your notes, you don't see the process in action. You don't see the alteration of the lesson, with the lesson plans. You don't see the interacting with the students, you don't see the materials that you could have been using the classroom...

Gary decided that he was saying two different things, "you [can] learn through doing and the other one is that everybody learns differently and modeling gets at different ways of learning."

Trinka said that she learned best by "seeing" and "doing", but thinks teachers should help children learn in many different ways. "Saying, doing, the repetitiveness in, they'll hear it once, they'll see it, they'll do it. It's a lot easier to learn that way."

Beth also talked of conscious modeling being used with other forms of teaching to reinforce what is being taught. "Not only are you getting it from reading, but you are seeing it and you are hearing it. You are getting it again and again."

Julie added a caveat about using modeling without other ways of teaching. She knew that if the faculty did not articulate what they were doing as they were modeling she would have to say "what is it that you are specifically saying, or tell me. I think I need that." She wanted to see a balance between their showing and telling.

In addition to seeing modeling as an effective way of teaching and as a way of reinforcing other methods of teaching, the students said that with modeling they were able to see theories in action. Gary believed that what Virginia and the text said about using learning centers as a way for students to learn was true, "because I can see that it would work." Julie thought that "modeling would be more like action, and what is that? 'Actions speak louder than words.'" Beth felt that

> the whole thing is finding out whether something is true or not, true or false. You may read a book and not believe it because the facts just seem too far fetched. How can that happen?...It just can't be, where does this person thinks she is?...If you see it, if you see the person pulling it off, they can do it and it works, wow, if it works for them in the book and it works for this woman in front of me...maybe...I will try it.

Katy learned about a whole different way of teaching because of the modeling. She felt that the type of teaching Virginia and Henry believed in does not exist very often out in schools, and so without their modeling "I wouldn't have known that that kind of teaching could exist...and that it will work..."

Many of the students touched upon the idea of congruency being central to conscious modeling. Beth was certain that Virginia "practiced what she preached". Because Virginia practiced in class what she said they should do with children, Beth knew that "she believes in this method". Beth liked Virginia's ideas more because she knew Virginia was being congruent. Gary tied the idea of being congruent to being a "good model". A "bad model" for him "is somebody who says one thing and does another." Katy also had thoughts about teachers who were not congruent in what they said and did.

> I have a hard time with someone saying, "now every classroom should be child-centered, this is why, zzzzzzz". I'm sitting taking notes on this person lecturing who is telling me that...lecturing is not what to do with kids, what you do with learners. So it is real inconsistent...and ...I don't know that it works. All I know is from what they say, and why should I believe that?

Trinka was also dubious about teachers who talked about what to do with learners, but did not teach their classes that way. "I have the

attitude that if I'm the one being told to do it - you do it and see how it is, how you like it."

Julie summed up her feelings about modeling and congruency this way - "I guess that is the key of modeling...that...even though somebody can talk until they are blue in the face, if you see somebody acting the way they are saying they believe, then it is proven, somehow."

Along with helping him learn and reinforce teaching ideas and practices, Gary felt that Virginia and Henry's conscious modeling helped him look at his own teaching style and beliefs more critically. "It will make me more aware of the way I model...make me more aware of my actions, actually what I'm doing and why." Katy thought the faculty's modeling helped her class of undergraduates to look closely at their own styles of teaching. Even for the students who did not choose to use many of the practices modeled by the faculty, Katv thought that the modeling helped them sort out what they believed and helped them become "more true to their own style".

For many different reasons the undergraduates found the faculty's use of conscious modeling to be beneficial. They felt they had learned or had had reinforced many ideas and activities which they could use when working with children. They had seen theories be put into practice, consistently, and had become more aware of their own role as models. Gary wanted to expand the using of modeling. He suggested that all the methods courses be combined and the faculty set up and teach the five mornings during the week as they would with children and

then use the afternoons for extra work and curriculum studies. Julie also believed that modeling was of utmost importance for teacher education.

> It seems like it should be primary, it really does....You want [preservice teachers] to be aware of what they are doing up in front of the class, so I think that if you have the instructors aware of their modeling and get the students to be aware that [the faculty] are aware...the more people know about the power of modeling, the better off.

Summary of Chapter IV, Presentation of the Data.

This chapter has presented in detail the case studies of Virginia Apple and Henry Seavitch. The views of Virginia and Henry about modeling and the specific beliefs, attitudes and practices which they tried to consciously model in their methodology course have been documented. The observations of the researcher and undergraduates concerning Virginia and Henry's modeling categories have been recorded. In addition, the undergraduates' general thoughts about modeling in teacher educations have been discussed.

The conclusions from this study and recommendations for further inquiry are presented in Chapter V.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

As indicated in the first chapter of this study, the present investigation grew out of a perceived need for information about the use of conscious modeling in teacher education.

Using a multifaceted qualitative research design and an ongoing system of data analysis this study examined the use of conscious modeling by two faculty members in their preservice teacher education methodology courses. Through in-depth interviews the faculty members' views about conscious modeling in general were gathered and the specific beliefs, attitudes and practices which they consciously tried to model in their methodology courses were recorded. Observations of the courses by the researcher were documented, along with the perceptions about the faculty's modeling by the undergraduates in the courses and students teachers who had taken the courses the previous year.

The inquiry was guided by six research questions:

1. What were the faculty members' stated reasons for consciously attempting to use modeling in their courses?
2. What beliefs, practices and attitudes were consciously modeled by the faculty? Which of these beliefs, practices and attitudes were perceived by the students?

3. What different types of modeling were used by the faculty and perceived by the students? How was modeling used by the faculty and how was it perceived by students throughout the semester?
4. What beliefs, practices and attitudes were unconsciously modeled by the faculty? Which of these beliefs, practices and attitudes were perceived by the students?
5. What were the personal factors which most affected the use of modeling in the courses? and
6. Which institutional factors most affected the conscious use of modeling in the courses?

Data collected in response to all of the research questions were presented in Chapter IV, in the presentation of the data.

A summary of the study's major findings and recommendations are presented below. The first section discusses the case studies, including an examination of factors which add to the effectiveness of conscious modeling in the case studies, and a review of the modeling in the case studies in light of the characteristics of successful modeling gleaned from the professional literature (see Chapter II, pages ****). The second section discusses the findings from the case studies which are applicable to teacher education methodology courses in general. Finally, implications for further research are discussed.

Discussion of the Case Studies

Findings about modeling from the case studies are divided into

two areas. The first centers on the models, the faculty in this study, and the second centers on the observers, the students in the courses.

Discussion of the Faculty Members

At any time when a study focuses on two different people and their behaviors, while looking at a specific idea or belief they both hold, the tendency for comparison is inevitable. This researcher was very cautious about not having the study become an evaluation of the faculty members' teaching abilities or of their personalities in relation to each other. Yet, when a a researcher looks at a teaching strategy, such as conscious modeling, a comparison of classrooms and styles of teaching contributes to depth of knowledge about modeling. Because of the use of two faculty members in the study, the information obtained about conscious modeling had more to do with what is characteristic about the concept of modeling than what had to do with a certain teacher's style, personality or area of expertise.

The undergraduates who participated in this study were struck by the differences in style and personality between Henry and Virginia, and they all needed to talk about those differences. The researcher noticed differences in styles and personalities, and also differences in Henry and Virginia's articulation about and their uses of modeling.

The students spoke of Virginia and Henry being opposites in personality, Virginia being "so strong" and sometimes aloof, while Henry was "easy-going" and friendly. By the end of the semester the

students often spoke of being like Virginia or Henry in a certain way or wanting to be that way with children. They seemed to be making fewer sweeping judgments about Virginia and Henry's styles, and they talked about combining some of the ways they perceived Virginia to be with ways they saw Henry being. A couple students felt they wanted to be like Virginia in keeping some distance from the children, not being "buddy-buddy", yet wanted to have an over all relaxed friendly style with children, like Henry.

There were differences between the faculty as they talked about and developed their categories, when they modeled in the classroom, and when they talked to the students about the modeling.

Virginia was very articulate about specific categories. She had obviously thought about and talked about her beliefs, attitudes and practices many times before. She created the framework of global and pedagogical ideas, with the sub-divisions of pedagogical principles and pedagogical specifics. She had articulated to students in other years when and what she was modeling. Because of her experience with articulating what she was trying to model Virginia would most often tell the undergraduates ahead of time or during the activity what she was modeling.

Henry had used modeling before the study and was very comfortable being in a study about modeling, but he had not reflected upon and talked about his ideas about modeling very much before that semester. He clearly stated his categories about teaching science because he had talked about those categories before. When Henry talked about his

categories of modeling beliefs, attitudes and practices about teaching in general, he was less articulate. He seemed to know what his beliefs and attitudes were but had not spoken of them in an organized way previously. The researcher established the two areas of teaching science and teaching in general. Henry was very interested in seeing the list of categories when the researcher brought them to the second interview, and asked if he could keep a copy of them. He was surprised at all the goals he had set for the students of which he had not previously been aware.

Henry said he uses conscious modeling more in his classes when he is trying a new activity, when he is a little nervous about whether the new idea will work. At that time he listens more to know what is happening in the class and is less directive and more flexible. When he has done an activity over and over he has to watch out because he doesn't "keep track of what I am saying or doing as much". Throughout Henry's course he did try many activities which he had never tried before.

On the other hand, most of Virginia's activities were ones which she had used many times before, and her use of modeling was consciously planned into them. Perhaps because she had used modeling in those same activities before, Virginia articulated to the students before or during the activity the fact that she was modeling. Because Henry was trying a new activity and was not sure what he would be doing during it, he sometimes would say he was modeling <u>after</u> they had finished the activity rather than before or during it.

A final difference between the faculty members in their use of modeling was that Virginia tried modeling categories which were more "risky", than Henry did. Some of the categories Virginia modeled made some students feel uncomfortable with her modeling . To model "evaluating without being punitive", "differing with people while still respecting their perspectives" and "valuing questions and challenge" were difficult tasks and may have been one of the reasons that the students felt she was incongruent in modeling categories such as "self-direction" and "listening/attending".

Henry and Virginia had their own styles in thinking about and talking about modeling. They each had different times when they felt more comfortable using conscious modeling and talking to the students about the modeling.

Henry and Virginia had many similarities in their use of modeling. Their reasons for using modeling were basically the same. Many of the beliefs, attitudes and practices they consciously modeled were similar, and the factors which affected their use of modeling were also similar.

Both Henry and Virginia used conscious modeling primarily because they, personally, needed to be congruent in what they believed about education and working with people, and in what they said and did in their classes. Whether the students noticed or not, the faculty needed that congruency for their own peace of mind. The students did notice and were impressed because that "practicing what they preach" was important to the students too.

Another reason why Henry and Virginia consciously modeled was that they thought modeling was an effective way of helping students learn about teaching.

Henry and Virginia both believed they had "some right ways" (as opposed to "the right ways") to teach children. They both modeled those beliefs, attitudes and practices so the students could see approaches to working with children that were different than most of them had seen before. That belief in what they were teaching was obvious.

The personal characteristics which Virginia and Henry felt that they had, which supported their conscious use of modeling, were very similar. They both mentioned self-confidence as critical for modeling and they both had self-confidence. Their self-confidence reflected their own feelings of competence as educators and their enthusiasm for their areas of expertise. Another major similarity between Henry and Virginia which encouraged their use of modeling was their interest in "process", as well as being interested in content or products.

Although Henry and Virginia developed their categories in different ways, the categories were often the same or stemmed from the same beliefs. Instances where their categories overlapped include, Virginia's "active participation" and Henry's "trust students/give responsibility and choices", Virginia's "self-evaluation", "feedback/interaction" and "individualized attention" and Henry's "flexibility based on data and children/self-evaluation", Virginia's "humaneness", "praise/positive responses" and "listening/attending" and

Henry's "responsive environment", Virginia's "peer interaction" and Henry's "cooperative learning". There were many others too.

The researcher saw both of the faculty members modeling almost all of their beliefs, attitudes and practices numerous times throughout their courses. They did not just talk about the categories; they actually modeled them. Although they modeled the categories and strongly believed that those categories were crucial for students to learn, both Henry and Virginia never told students that they "should" teach the way the faculty were modeling. Because of Virginia and Henry's articulation that they were showing "one of many ways" and their emphasis that the students had to "build on strengths" and do their own learning, the students never felt pressured by faculty to mimic the behaviors. Some of the students talked about how teachers "should" do such and such, and those students may have tried ideas because they believed that Henry and Virginia had the "right way". None of the students said that they felt the faculty members were telling the students that the students "should" teach in a certain way.

Henry and Virginia's need for personal congruence arose from their own family backgrounds. The authenticity of the beliefs and attitudes they modeled were a reflection of years of experience and of deeply held convictions about how to teach and how to work with people.

The professional literature on modeling centers on specific isolated behaviors and skills to be modeled and learned. In this

study, the deeply held complex beliefs and attitudes of Henry and Virginia were the center of focus and were pervasive in their category selection, what the observer saw and how the faculty responded in the interviews. Specific behaviors seemed to be an expression of strong convictions and were always part of a wider scheme.

Perhaps the deeply rooted beliefs and attitudes of a teacher are the key factor in the use of conscious modeling in a natural setting. This is a dimension of modeling which has not been explored in the literature.

A final way in which Virginia and Henry were alike had to do with what factors influenced their use of conscious modeling. They both had strong feelings that their colleagues in their specific program, and in the College of Education as a whole, supported them. The College of Education probably did not know about Henry and Virginia's use of conscious modeling but gave support to all faculty members by trusting them and giving them the freedom to design and schedule their own courses and programs. The support and respect Henry and Virginia received from each other and from the other faculty members in the program were evident from their informal interactions and at staff meetings.

Henry and Virginia both said that when they did not have enough time to prepare, their conscious modeling suffered. During the semester of the study, perhaps partly because both faculty members had graduate students with whom they planned curriculum ahead of time. Virginia and Henry seemed quite well prepared. During the classes

where they had planned to do too many activities or to talk about too many ideas, incongruencies did became apparent. The faculty tried to "cover the material" and left less time for listening, wait time, encouraging many different answers and active participation. Some specific techniques, such as Virginia's "Sustained Silent Reading and Writing" and "many models of learning", and Henry's different types of evaluations, were forgotten or foregone when the faculty felt pressured by time, or felt that other activities were more important.

Virginia and Henry modeled on three different levels. Firstly, they modeled specific techniques they wanted students to use with children. Secondly, they modeled how an effective teacher teaches. Finally, they modeled having and acting upon a belief system and world view.

Discussion of the Undergraduates

For the conscious modeling of this study to be thoroughly analyzed, a discussion of the students as observers of the modeling is necessary. When the observers (students) were compared, they were more alike than different in the ways they thought about and reacted to the use of modeling in their classes.

The main differences between students had to do with the specific beliefs, attitudes, and practices they observed and how they reacted to any perceived incongruencies on the part of the faculty. Although the students did notice some of the same behaviors being modeled, they

focused on observations of different areas when they were interviewed. Some of the students focused on the specifics and slowly, as the semester continued, saw the specifics fitting into larger categories of beliefs and attitudes. This phenomenon of learning to see a "bigger picture" may have been due to the fact that they were seeing the modeling over a longer period of time, and/or because they were talking with the researcher about the categories and made connections as they talked. April, one of the student teachers, spoke mostly of specifics. Among the student teachers she seemed to have spent less time on her own reflecting and articulating about what she had learned the previous semester and how she had learned it.

Some students were more aware of the global categories than the others were. Julie, the older student, and Katy, one of the student teachers noticed right from the beginning of the class and the interviews that there were many types of behaviors being modeled, and both talked about the complex behaviors involved in interacting with people as being most important to them. Those two students were also the ones who, as they noticed incongruencies in the faculty members' modeling, were thoughtful about the perceived discrepancies and why they happened. Others students noticed incongruencies and gave more simplistic views as why they happened, such as "nobody's perfect". Perhaps because early in the semester Trinka believed that Virginia had the "right ways" to teach and Trinka identified strongly with Virginia's ways of teaching, she was more upset to see inconsistencies.

The undergraduates all reacted to the conscious modeling in many of the same ways. All of the students' first impressions were very strong. They were all struck by personality and style and that the faculty members were showing them different ways to teach. In their interviews they needed to describe the faculty members and often made judgments about liking the faculty members. They did not differentiate between what Virginia and Henry consciously tried to model and what was part of their styles. They knew, as Trinka said, "Modeling is showing", but also agreed with Frank's thought that "modeling is your personality shining through" and involves unconscious behaviors too.

Usually the first modeling the students noticed was of specific modeled techniques or activities, especially if the faculty members told them what they were modeling. Often they did not mention about the set-up of the classroom unless Henry or Virginia had explained to them what they were modeling through the set-up.

The students did not create any new categories about the more global teaching behaviors and beliefs, but did establish new categories of specific pedagogical techniques. As they were exposed to modeling and articulation about modeling the students felt they knew more about modeling and were more careful observers. Julie felt she was more aware of Henry's modeling, because she had had experience looking at and thinking about modeling with Virginia.

The students noticed incongruencies and inconsistencies less from their first impressions than after a number of classes. They connected incongruency with unconscious modeling and so often equated unconscious

modeling with negative behaviors. They felt in those instances that if Virginia or Henry realized what they were modeling they would stop modeling it. The students trusted that the faculty members were trying to be congruent, so any incongruency was seen as an unconscious "slip-up".

A final similarity between students was that they all thought that the conscious modeling helped them learn new beliefs, attitudes and practices about teaching, and they also felt the modeling reinforced many ideas and practices about teaching which they already had. If they were to teach teacher education methodology courses, all the undergraduates felt they would use as much conscious modeling as they could. They thought that the use of modeling was an effective way of helping them learn to teach children.

Factors Which Added to the Effectiveness of Modeling

Three factors seemed to add to the effectiveness of modeling in the methods courses - reflection, articulation and time to try the behaviors.

Reflection about modeling on the part of the students happened at different times in different ways. They were asked to reflect on the general learning they were doing in their classes. They thought about what they were learning and how they were learning it as they wrote feedback sheets and gave feedback in class. Both faculty members asked them to process activities - "why do you think we asked you to do this

assignment". This familiarity with "processing" encouraged them to think about why and how the faculty members were using modeling. The interview questions also encouraged them to think back to the classes and make connections about what they saw and thought about conscious modeling.

As the students reflected upon what they saw Henry and Virginia doing in class, and generalized that modeling to other teaching situations they had been in or were in, they became more careful and thoughtful observers. They began to see more ideas and activities being modeled and began to make judgments of whether they wanted to try to use a behavior they had seen.

Articulation also helped to bring the modeling into focus for the students. Their articulation of ideas on written feedback and evaluations, and verbally in classes and in the interviews, helped the undergraduates to explore their understanding of modeling in education. Julie said that talking about modeling helped it come "to the front of the brain" and the students "should talk about it, definitely, definitely." Gary felt he thought more about modeling because of the interviews. "I sit down and actually talk to somebody about modeling. I may not see it happening, but in the interview I look back and I say, wow, that's what was really happening, this is what he was trying to get at." Many times during the interviews, as they were talking, the students would come up with new ideas and find new meanings for behaviors they had seen in class.

When the faculty talked about what and how they were modeling,

that articulation also helped the students understand more about modeling and the specific beliefs, attitudes and practices Henry and Virginia were trying to model. Gary mentioned that he would have "just thought of [Virginia] as an entertaining story teller", but she told them that she would be modeling different techniques to use with children, so he began to think of how she was telling the story and using the story, rather than just being entertained. He thought that Virginia and Henry needed to articulate what they were modeling or "you might not even realize it". No student ever said that Virginia or Henry's talking about what they were modeling detracted from their learning. Although some students did not think that Henry mentioned that he was modeling, and others did not think Virginia had talked about modeling, both faculty members had talked about modeling at different times during the semester. Most of Virginia's articulation occurred during the first two classes. Henry did not mention that he was modeling as often as Virginia did, and any articulation usually was included in a public comment to the participant observer.

A final way in which articulation is an enhancing factor for the use of conscious modeling is when the faculty articulate for themselves about what they are doing. Henry became more aware of his own beliefs and goals and how he actually did use modeling with students, while talking during his interviews.

The students and faculty's articulation about the modeling reinforced the effectiveness of the conscious modeling. In a similar way, this study is an articulation and, thus, a reinforcement of what

those students and faculty think and feel about conscious modeling.

The third factor which adds to the effectiveness of conscious modeling is one which may be harder to achieve than reflection and articulation. Because the students in this study were in prepracticum teaching situations while they took the methods courses, they were able to try out in their classrooms some of the behaviors they saw Virginia and Henry modeling. In the last set of interviews, students talked of having experimented with ideas with children and then coming back to the methodology classes eager to see what more they could learn. Even without being in a teaching situation simultaneously with the methods courses, students still can gain practical "hands-on" experience in the courses themselves. In Virginia's class students "practiced" setting up learning centers and analyzing children's reading and writing. In Henry's class the students had "hands-on" practice with materials every week and they also all had a chance to teach the rest of the class a lesson from the book Project Learning Tree. In both classes the undergraduates did not just listen and watch, but participated and practiced being a teacher themselves.

These three factors, reflection, articulation and having a "time to try", help to reduce the likelihood that the result of using conscious modeling will be mimicry or straight imitation of what the faculty members are doing. In short-term clinical studies on modeling, these factors are not conspicuously present or necessary for learning from modeling to occur. In a long-term natural setting, like a methodology class, which involves many complex beliefs, attitudes and

practices being modeled, these factors become more important. Without reflection, articulation and "time to try" many of the consciously modeled behaviors may be missed by the students or unconsciously adopted by them. In order for the students to be able to bring what they are learning out into the open for analysis and thoughtful acceptance or rejection, time for them to consciously "process" what they are learning must be provided.

An Examination of the Modeling in the Case Studies in Light of the Characteristics of Successful Modeling Gleaned from the Professional Literature

In Chapter II, the Review of the Literature, the researcher pulled from the professional literature on modeling a set of eight characteristics necessary for inclusion in any discussion of modeling in teacher education. Each characteristic is listed and then discussed as to how it pertains to the case studies.

According to the literature, to be a successful model a teacher needs to have, 1. The ability to gain the observer's (student's) attention, because of having high status, power, competence or interest.

Virginia and Henry had gained the undergraduates' attention even before they began to teach the courses. Their reputations had preceded them and some students had heard from previous students in the program that Virginia and Henry were very competent and that they, the students, would learn a lot in the courses. The students had applied

students, would learn a lot in the courses. The students had applied to and been chosen for Virginia and Henry's elementary education program, were interested in learning to be teachers and had been looking forward to taking the methodology courses. They also knew that Virginia and Henry had the power to keep them from passing the courses or becoming teachers. In this case Virginia and Henry did not need the ability (whether they have it or not), to gain the students attention, because they had that attention automatically.

The second characteristic suggested by the literature as necessary for successful modeling was, 2. Warmth, defined as supportive, agreeable behavior with frequent expression of appreciation.

Both faculty members established categories which dealt with this issue. Virginia's "Praise/positive response" and "Listening/attending" categories and Henry's sub-category of "Responsive teacher" involved modeling behaviors which would show support and acceptance of the students' written and verbal contributions to class. The observer and the students all recognized this characteristic in Virginia and Henry's teaching. They responded to students in ways which showed that they accepted the students' contributions as valid, and they worked individually with students in conferences and informally, giving the students specific support for individual needs. Henry's use of humor and his easy-going style added to the students' sense of his support and warmth. Because Virginia tried to model ideas which sometimes made the students feel uncomfortable, like "differing, but respecting other

perspectives", "evaluating without being punitive" and "I value, questions, challenge", and because she sometimes seemed not to really want to hear the students' ideas, the undergraduates felt an inconsistency with Virginia with this second characteristic.

The third element extracted from the literature was, 3. Humanness; not to be a "perfect model", but showing the inherent difficulties in learning the behavior.

Because Henry and Virginia are very competent teachers of teaching, (see characteristic 1. above) they were seen to be "perfect" in term of knowing how to teach certain skills. Both Virginia and Henry tried to model that they also were learners and made mistakes. The students seemed to appreciate when Virginia and Henry showed that they were "human" and could make mistakes, even when the mistakes did not directly relate to the courses. Both professors did show "the inherent difficulty" in learning how to use conscious modeling in teaching. By focusing the students' attention on their conscious modeling they encouraged critical analysis of their teaching and students did notice inconsistency and incongruency in their teaching. In most cases the students were supportive and understanding when talking about the incongruencies, in part because the students saw the discrepancies as "being human".

The 4th and 5th elements necessary for successful modeling, "consistency in presenting a behavior" and "congruency between what is said and what is done" have been frequently mentioned in this study. Again and again the students talked about how Virginia and Henry

"practiced what they preached". Throughout the semester the faculty consistently modeled many, many beliefs, attitudes and practices they would have liked students to have and use with children. Probably because Henry and Virginia modeled so many behaviors which were consistent from class to class and were congruent with what they believed and what they said in class, when they were not consistent or congruent the students usually were not very concerned. The students were aware of the discrepancies, but usually did not generalize their feelings about the discrepancies to other ideas and practices the faculty members presented. Because the "messages" sent to the students were not usually "mixed" ones, the success of the modeling did not seem to be jeopardized.

The 6th characteristic for successful modeling is "awareness of the observer and her/his needs and development". Through the types of questions they asked in large and small group discussions, and through written feedback, assignments and individual conferences, Henry and Virginia gathered information about individual students and their needs.

Some of the beliefs and practices that Virginia and Henry modeled were very different from what many of the undergraduates were used to seeing in a classroom, be it elementary or college. The students had been given an idea of the program's philosophy as they were deciding which education program to join. The application/acceptance process helped the students choose a program with which they felt comfortable. In the methods courses, the professors had the students experience the

behaviors and think about and talk about the ideas presented, thus helping the beliefs and practices seem less foreign than they may have appeared at first glance.

The 7th characteristic of "participant observation", trying a behavior while watching the model, was obvious in the methods classes. Many of the students could not distinguish between the learning they did by watching the professors and the learning that happened because they were participating in the activities themselves. Many times the technique being modeled included student participation. Virginia modeled Sustained Silent Reading and Writing by having everyone, including herself, do ten minutes of Sustained Silent Reading or Writing. Henry and Virginia modeled asking probing and thoughtful questions and also set up small group discussions to encourage the students to try to ask those types of questions of each other. Being in the prepracticum setting also gave students a chance to try out behaviors they had seen modeled.

The final characteristic which the professional literature considers important for successful modeling is having the learned behavior be "worth it" for the learner. The immediate sense of the behaviors feeling "worth it" for the undergraduates probably came from the fact that they were seeing and trying out the behaviors in a supportive, exciting and interesting environment. They next received feedback about some behaviors in their prepracticum setting. The ultimate sense of the behaviors being "worth it" will come later when the students try many of the behaviors in their own classrooms and

receive feedback from students, principals and parents.

The characteristics which were pulled from the review of the literature as crucial for successful modeling were clearly evident in both of the methodology classes.

So far in Chapter V the findings which had to do with the model and the observers from one situation where conscious modeling was used have been discussed. Factors which enhanced the effectiveness of conscious modeling in that setting were also presented.

The next two sections of Chapter V analyze the findings of the case studies in the larger context of teacher education in general.

Findings from the Case Studies Which are Applicable to Teacher Education Methodology Courses in General

Before the findings from the case studies can be reviewed for use in other methodology classes, some clarifications need to be made about the generalizability of the findings.

Henry and Virginia have a definite, distinct philosophy of education. They believe in active, "hands-on", learner-centered education where learning centers on the discovery of personal meaning. One of the strategies Henry and Virginia use in teaching preservice teachers is conscious modeling. The strategy of conscious modeling can be used by educators who have different philosophies of education from Henry and Virginia. For example, there are teacher educators who believe that the job of the teacher and teacher educator is to impart

content to the learners. They, as teachers, are the main vehicle by which the learning of content can happen. These educators can also use conscious modeling effectively as a teaching strategy. They would consciously model to their preservice teachers how to impart information in effective teacher-centered ways. They would, in Wideman's (1970) terms be "reflexively coherent"; they would be "free of contradiction" between what their professed assumptions were and what they actually did. If these educators also displayed the other characteristics crucial to successful modeling their modeling would probably be a very effective teaching strategy.

The charge in the professional literature is for teacher educators to "practice what they preach". Those authors are concerned about teacher educators who, unlike the educators who are "reflexively coherent" in their assumptions and actions, profess one educational philosophy while their courses and programs show another. Their idea of "practicing what you preach", or having a congruence between beliefs and practice is a core element in successful modeling.

This study was initiated because of a perceived lack of useful information in the literature about conscious modeling. The findings from Henry and Virginia's case studies are perhaps most valuable for those educators who, besides being interested in the concept of conscious modeling, are interested in how that modeling can be used as a means to introduce undergraduates to learner-centered, experiential ways of teaching.

The next two sections of this concluding chapter present findings

about conscious modeling which are applicable to teacher education.

Factors Limiting the Usability of Modeling in Teacher Education

Although this study involved a limited population, certain conclusions can be drawn about the factors that the faculty members, students and researcher saw which limit the usability of modeling in teacher education settings like the one described in this study. The conclusions may also be useful for other teacher preparation programs and educators.

Three major factors seemed to limit the usability of modeling in methods courses. They are personal beliefs and characteristics, time and energy and external support.

Using conscious modeling is a different way of teaching than most teacher educators have traditionally used. The belief that process is as important as content is central to the use of conscious modeling. Conscious modeling involves the "how" of teaching more that the "what". If teacher educators feel that knowing content, "what children should know", is their primary goal for their preservice teachers, then that belief may conflict with the use of conscious modeling.

Both Virginia and Henry felt that self-confidence was necessary in using modeling as a teaching strategy. They both wanted to look at their teaching and make sure that what they were doing and saying was congruent with their beliefs. For educators who do not feel confident about their ability to teach and/or have not analyzed their own

assumptions and ideas about education conscious modeling might not be a useful technique.

As educators venture into using conscious modeling and articulate to undergraduates about trying to use modeling as a teaching strategy any incongruencies the students notice might prejudice their opinions about the educator's teaching in general. Although consistency and congruency are central to successful modeling, the students in this study seemed to accept some incongruency, if the faculty members were congruent and consistent with the majority of their beliefs and actions. The students felt that some incongruency showed the faculty member's "humanness".

Using conscious modeling is putting an educator's whole philosophy of education and ways of interacting with people on display and asking students to analyze them. Although undergraduates, as observers, may already be doing that analysis with all of their instructors consciously, or unconsciously, some people may not want to consciously risk that kind of open scrutiny. Bob B. Brown writes in his book about theory and practice that he feels there is a tradition in education for "keeping one's personal beliefs private". (1968, p. 194) That tradition might discourage educators from wanting to use consious modeling.

Even though educators might have the personal characteristics and beliefs which support the use of conscious modeling, the factors of time and energy might limit their use of modeling. Time is needed to prepare for activities. Especially in a "hands-on" class, materials

need to be collected ahead of time and ways of engaging the undergraduates in the activities need to be thought and planned out prior to the class. During the actual class time the educator should plan in times for articulation and reflection about the modeling (how the students are learning).

While the educators may believe that process is as important as content, their feelings within a particular class of wanting to cover the ideas they had planned for the day, could make them feel rushed, and, thereby, affect how successfully they model other beliefs and practices.

The factor of not having external support can be a limitation in trying to use conscious modelng in teacher education. Teacher educators are often expected to concentrate on doing research and publishing at the same time that they are teaching methodology courses. In those situations the educators might have trouble finding the time and energy needed to use conscious modeling in their classes. The encouragement and suggestions from colleagues, which both Virginia and Henry identified as being of real importance, might be nonexistent. The lack of institutional support for reflection about and experimentation with modeling might also be a hindrance. The faculty members might be expected to teach very large classes for which the modeling of any type of teaching beside lecturing would be difficult. A final outside factor has to do with competency-based tests for teachers and students. As States and institutions show real signs of becoming more concerned about teacher competency, they are

introducing tests for preservice teachers to take in order to become certified. To the extent that these tests reflect an emphasis on knowledge rather than process, faculty may feel more pressured to ensure that their undergraduates have been presented content and thus may have to relinquish time they would have spent on the process.

Benefits of Using Conscious Modeling in Teacher Education

Findings from this study suggest that preservice teachers, teacher educators and the education profession in general can benefit from the use of conscious modeling in teacher education methodology courses.

For undergraduates who learn most efficiently and effectively through a visual mode of teaching, conscious modeling with its "showing" of beliefs, ideas and practices, adds to their learning. Even for other students, whose predominant learning styles may be audio or kinesthetic, the use of this visual teaching may be helpful in their learning. In the study, Julie felt that although she was mostly a kinesthetic learner she "must observe before I decide what to learn".

Focusing on modeling in methods courses may help students become more "process oriented", thus enabling them to look at learning to be a teacher as more than just learning content.

As faculty members translate their beliefs into action, students may make connections in their own minds about their theories of education and how they can put those theories into practice. The

students also may become aware of the factors which may keep that transference from happening.

The opportunity for students to see educators using conscious modeling gives them an example of a different type of teaching, an alternative to the types of teaching the students have seen so often during their own schooling and usually in their prepracticum and practicum experiences. This providing of preservice teachers with alternative styles of teaching is an idea which some teacher educators applaud.

> Having sat in classrooms for 16 or more years, we limit our definitions of what a school is, what a teacher is and what constitutes being educated is, to what we are familiar with. Perhaps what all of us who aspire to be teachers...need is new models of what it is to be a teacher. (Ryan and Cooper, 1980)

One of the most important benefits that the use of conscious modeling offers is as a way to help preservice teachers pull from the unconscious what they are learning about being teachers, or have learned in their 16 years of observation, and put those beliefs, attitudes and practices out in the open. Then students can consciously look at what they are learning and have learned, and exert control over what they choose to keep or reject for their teaching styles. Conscious modeling, especially with time for articulation and reflection, helps students to look at all they are learning, making the learning process more conscious rather than unconscious.

As students work with cooperating teachers, other college teachers and with colleagues when they are teachers themselves, their

awareness of the modeling may help them to be more thoughtful about how they are learning from those people. The students may also see more clearly what and how those people are teaching children. Again, the students' awareness may help them have real control over what beliefs and behaviors they want to display with children.

A final benefit the students may gain from the use of conscious modeling is that they may come to see themselves as models, too, for children. The undergraduates in this study had already thought of themselves as being models for children, in such ways as by being a "good" person and dressing neatly. Knowing more about modeling may help them decide what specific beliefs, attitudes and practices they want to model.

Teacher educators can also profit from their use of conscious modeling. Conscious modeling can be used to present and/or reinforce ideas, beliefs and practices that the teacher educators have. Even if students learn nothing about modeling, by "seeing" activities and ideas, using another learning mode, the students may learn those activities and ideas more efficiently and effectively.

Using conscious modeling can help teacher educators sort out what beliefs and attitudes they have about education and help them make explicit many of their implicit beliefs and attitudes. The process of trying to show students their beliefs and practices may encourage the educators to engage in self-reflection and may add to their own growth as an professionals. Entire teacher preparation programs might explore their philosophies of education by trying to see how they could

consciously model what they believe. This idea might help alleviate the age-old concern of students that education instructors teach primarily about theories, with too little emphasis on practical application.

Both Virginia and Henry felt that their conscious modeling helped create congruence in what they believed and what they did. For them to feel congruent was very important. Without congruence in their teaching they both would not be comfortable or satisfied. In order to arrive at that sense of congruency, educators need to bring their philosophies of education, their beliefs and assumptions, to a level of critical self-consciousness. The use of conscious modeling may be a vehicle by which educators can work to bring their philosophies out into the open, thus improving the possibilities for congruence.

In addition to the use of conscious modeling being beneficial for preservice teachers and teacher educators, the educational profession might also benefit from its use.

Ryan and Cooper (see quote above) and other teacher educators have a concern that not enough different models of what a teacher is and does are offered to aspiring teachers. Graduate students preparing to be teacher educators also have few options presented to them of what teacher educators can be. Seeing teacher educators consciously trying to model beliefs, attitudes and practices encourages graduate students to analyze their own teaching styles and work on being congruent in what they believe and do.

Some educational writers contend that for teacher education

programs to adopt a focus of being "reflexively coherent" (Wideman, 1970) might significantly change education in general.

> There is some basis for believing that teacher education programs could become more effective influences in changing educational practices if they would concentrate more on the development of logically consistent relationships between theory and practice rather than by propagandizing for or against specific practices themselves. (Brown, 1968, p. 153)

The use of conscious modeling is, in one way, a specific practice, a strategy to use in teaching. Yet, this strategy encourages educators to focus on their own congruency in how they teach, and leaves open to the educators the task of finding their own specific styles.

Conscious modeling in teacher education may also help develop adaptive and flexible teachers for a changing, demanding society. For teachers to react creatively to changes in children's and society's needs they need to know clearly what their beliefs are and how they learned them.

> Education students have usually internalized - in part unconsciously - the practices of their own teachers. If teachers are to adapt their behaviors to changed circumstances, they will have to be freed of unconscious influences of this kind; what they bring from the past should be thoroughly examined as alternatives in the present. There are perplexing psychological questions in this regard; what teaching methods will be most effective in helping students to gain cognitive control over previous unconscious learning? (Lortie, 1975, p. 231)

Certainly, using conscious modeling in methodology courses can not be regarded as a panacea for helping students deal with their unconscious learning. Two of the three student teachers in this study

mentioned that they had probably learned a lot in the methodology courses without realizing it. April said, "I think that I do a lot of things in the classroom that I've learned subconsciously, without really realizing it. I think a lot of it is just in me now, so you just do it." Even by using conscious modeling, teacher educators will not ensure that all that the students learn will be learned explicitly and not implicitly. Yet using conscious modeling may be an effective method for some teacher educators to help students to gain control over the usually unconscious learning that happens in methods courses, and may help them have a means to look more critically to how they learned about teaching in their past.

The benefits gained by the students, teacher educators and the profession from using conscious modeling center mainly on three areas. First, the teaching done in the methods courses may be reinforced by the use of modeling; the students will "see" what the faculty members are trying to teach, in addition to hearing about it. More learning may happen because of that reinforcement. Second, the split between theory and practice may be lessened by the students watching the teacher educator modeling her/his beliefs. And last, the use of conscious modeling may help students pull up to a conscious level beliefs, attitudes and practices which are often learned unconsciously in courses, thereby enablingly the students to have control over what they want to accept or reject as their own teaching beliefs, practices and attitudes. This "putting implicit learning out on the table" for analysis may then be generalized to other implicit learning the

students have done in the past.

Implications for Further Research

This study was undertaken to provide a description of the concept of conscious modeling as used in a natural long-term setting in teacher education. Like most other aspects of teacher education, the use of modeling is far from becoming a closed subject. Throughout this present investigation, other avenues of research became apparent and the following section of this chapter outlines some of those specific areas which might be explored in more depth in future studies.

The role of articulation in the use of conscious modeling needs to be studied. This examination would center on what beliefs, attitudes and practices faculty members who use conscious modeling only talk about to students, compared to those that they talk about and model, compared to those that they just model.

A similar study, but centered on the use of reflection with modeling, would be helpful for understanding the role reflection plays with conscious modeling.

In this investigation the researcher did not indicate which of the beliefs, attitudes and practices consciously modeled were more heavily weighed in terms of priority for the faculty members. Another examination, centering on whether the professors' priorities get modeled more often and talked about more often than other beliefs and practices and whether the students were more aware of those priorities,

would provide useful additional information about the use of conscious modeling.

Virginia and Henry's beliefs and attitudes about teaching and their need for personal congruence stemmed from years of experience and were deeply rooted in their family backgrounds. Further study is necessary to explore the relationship between deeply held beliefs and conscious modeling.

A study focusing on the types of behaviors perceived by students would lead to an examination of whether students tend to perceive more global categories of behaviors or more specific pedagogies when conscious modeling is used. An investigation of developmental stages in preservice teachers and their relation to which categories are perceived by the students would suggest the categories of behaviors most appropriate to model in methods courses.

An examination of modeling in methodology courses where the faculty members do not consciously use modeling is necessary to investigate in what different ways students learn through unconscious versus conscious modeling.

A research project needs to be conducted to explore ways in which to help interested faculty members experiment with the strategy of conscious modeling. The study would examine what factors contribute to the adoption of the strategy and what factors hinder any incorporation of conscious modeling.

Follow-up studies are needed of students who were taught in methodology courses using conscious modeling to see what beliefs,

attitudes and practices of the faculty members are present when the students are elementary school teachers. This would provide information for faculty members interested in using conscious modeling as to the long term effects of the strategy.

Quantitative studies examining what beliefs, attitudes and practices students learned in teacher education methodology courses, and how they learned them, would provide information about what types of teaching strategies are more appropriate for methods courses. Follow-up studies would be necessary to investigate which beliefs, attitudes and practices are used when the students actually teach, to confirm which teaching strategies lead to more retention of the learning which happened during the methods courses.

Many different studies about the role of conscious modeling in the cooperating teacher/student teacher relationship might help clarify what student teachers learn in their practicum situations and how they learn it. Studies of congruence (or lack of) between beliefs and practices demonstrated in methodology courses and those displayed by cooperating teachers might also contribute to the information about the effectiveness of using conscious modeling during methodology courses.

These areas of research would add to the current literature concerning the use of conscious modeling in teacher education. Since there is a dearth of information in the literature about conscious modeling in teacher education, there needs to be more documentation about its use as a teaching strategy in order to encourage more discussion and experimentation with it by individual faculty members

and teacher education programs.

The notion that the use of conscious modeling can stimulate teacher educators to "practice what they preach", help them develop more effective, interesting teacher education methodology courses, and provide examples of how an effective teacher teaches is indeed exciting.

Teacher educators must continually strive to refine existing methods and theories which are central to the professional preparation of the teachers of this nation. The use of conscious modeling is an alternative teaching strategy for professional educators, and also is a vehicle which helps students and professors to focus on how preservice teachers learn to be teachers.

It is the researcher's hope that teacher educators and teacher education programs will become more aware of conscious modeling as an effective teaching strategy and incorporate the concept of conscious modeling into their teacher education methodology courses.

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APPENDIX A

First Faculty Interview Guide

Research Question 1.

What are the faculty members' stated reasons for consciously attempting to use modeling in the courses?

What are your reasons for consciously attempting to use modeling in your undergraduate courses - in the past, for this course in particular?

When did you start consciously using modeling in your classes and why then?

How have you benefited from modeling used by someone else?

Research Question 2.

What beliefs, practices and attitudes are consciously modeled by the faculty? Which of these are perceived by students?

What beliefs, practices and attitudes do you consciously attempt to model in your courses, in general and specifically planned for this semester?

To which do you give greatest emphasis? (Most important to convey to students?) Check list?

How will the students know what you are trying to model?

How will you know if the students perceive that you are modeling?

How will you know if you were successful in modeling and that

your modeling was successful in helping teach?

Research Question 3.

What different types of modeling are used by faculty and perceived by students? How is modeling used by the faculty and how is it perceived by students throughout the semester?

What types (ways) of modeling have you used and are you planning on using this semester?

How will you use modeling this semester?

Research Question 4.

What beliefs, practices and attitudes are unconsciously modeled by faculty? Which are perceived by the students?

If students are learning by observing constantly, what are your thoughts about modeling which is not conscious - where does that fit into your classroom?

Research Question 5.

What are the personal factors which most affect the use of modeling in the courses?

When do you think you most often use conscious modeling in your teaching?

What factors inside you seem to affect your using it? (examples - how focused you are that day? How confident you feel?)

When do you think you are least likely to use conscious

modeling? What are you feeling at those times?

How hard is it to use conscious modeling? Examples - (self-criticism about using modeling)

What parts of your personality seem to lend themselves to the use of modeling?

What would make you less (more) eager to use modeling?

What type of faculty member would do well at modeling?

Research Question 6.

What environmental factors most affect the conscious use of modeling?

How do students' reactions to you affect your use of conscious modeling? How do peer reactions affect your use of conscious modeling?

What kinds of support or limitations do you feel come from the college of education for using modeling?

How does the program structure, timing and goals affect your use of it?

What institutional (environmental) factors could make you more eager to use modeling? **********

Miscellaneous Questions.

How do you use modeling in other situations (committee meetings, your children?) Are there modeling qualities which are specific to courses?

What do you model which is most applicable to elementary teaching?

Where does modeling fit in with peer teaching?

Do you have some questions which you are hoping the study will answer?

I will use this set of questions as an interview guide. It is only a guide, so please feel free to stray from strict answers, to talking about the aspects of modeling which come to mind, which are of most importance to you now. I will not ask all these questions.

We do not need to feel pressured to record all your thoughts about modeling now, because we will have another formal interview and many times before, during and after classes for informal conversations, when you can add ideas, etc.

If you think of anything else you'd like to tell me, which you forgot to mention or grew out of this interview, please tell me whenever you see me.

CONFIDENTIALITY

First Student Interview Guide

Research Question 1.

What are the faculty members' stated reasons for consciously attempting to use modeling in their courses?

What do you think are the faculty members' reasons for consciously attempting to use modeling in their courses?

Research Question 2.

What beliefs, practices and attitudes are consciously modeled by the faculty? Which of these beliefs, practices and attitudes are perceived by the students?

What teaching methods, techniques, strategies do you see the faculty member using in teaching this course? How can you tell she/he is using it?

What beliefs about teaching do you see the faculty member consciously trying to model?

What attitudes about teaching and children do you see the faculty member consciously trying to model?

Research Question 3.

What different types of modeling are used by the faculty?

How does she/he use modeling during a class?

Research Question 4.

What beliefs, practices and attitudes are unconsciously modeled by the faculty? Which of these beliefs, practices and attitudes are perceived by the students?

What teaching strategies, methods, techniques do you think may be unconsciously modeled by the faculty?

What beliefs about teaching do you think the faculty member unconsciously models?

What attitudes about teaching, teachers, and/or children do you think the faculty member unconsciously models?

Research Question 5.

What are the personal factors which most affect the use of modeling in the courses?

How comfortable are you with the faculty trying to model beliefs, attitudes, and methods?

How different from or similar to other education professors are these faculty members in their teaching style?

How has the conscious modeling affected your thoughts about using modeling in your pre-practicum classroom this semester, in the future?

In what ways does the modeling help in your learning? In what ways does it get in the way of your learning?

How would you use modeling if you were teaching a methods course?

Research Question 6.

Which institutional factors most affect the conscious use of modeling in the courses?

Answered in other questions.

2nd Interview Guide for Beth

I will ask tighter questions, still open-ended, but I hope to help limit the length of the whole interview.

1st thoughts about V.A.

What did you learn or already know, but she reinforced, in V.A.'s class, and how did you learn them?. Looking back, 5 or so things which stand out.

In what ways does the modeling help in your learning? (This didn't come out well on the tape) In what ways does the modeling get in the way of your learning?

How does V.A.'s modeling of beliefs, practices reinforce what you already believe? Read page 8 to her.

3 things - from tape - 1st read about it, then she tells, then she models it.

Did V.A. model anything that you chose not to try, or would not choose to try?

Thoughts about Henry

I don't have on tape your thoughts about the ideas you had about Henry and safety on the overnight.

What are you learning in the science class and where is that learning coming from?

What techniques (beliefs, attitudes) do you see H.S. modeling in the class? How do you know that he is modeling them?

3rd Interview Guide for Gary, Dec. 14th

5 Things you learned or had reinforced in Virginia's class. And how you learned them or had them reinforced.

1. The individualized reading program, the whole thing. (I learned it) Through lectures in classes and in the book...and we did our own, read our own books and we did reports. She said go to the library and pick your own children's books...you know, that was modeling of the individualized reading program. (Also saw this reinforced in pre-practicum class)

2. Getting more personalized one on one with the teacher... to get to know the individualized needs of the students...conferences. (I learned that) ...through the Veatch, the lectures, she had interviews here...I guess that was modeling to the class, during lunch period she had conferences. I didn't even think about that. Her conferences were modeling.

3. The way that she ran her classroom, the structure of it, the openness, having snacks, just the atmosphere was good. (I learned it) Through modeling, through Virginia's modeling of the way she ran her classroom. And discussions in class with the whole group. (Also saw this in pre-practicum class)

4. Team teaching can work, that there has to be a lot of patience, because one might say something and the other partner might want to jump in and you know go on and take over right then, but you have to have patience. (I learned it) By Virginia always saying that she has to bite her tongue and I can see it in the class and she says that she does.

5. The mailboxes...It was introduced in class and I saw it working, I used it once in awhile.

Henry's class - things you learned or had reinforced in Henry's class and how?

1. I see that he teaches through the theory of discovery. (I had it) Reinforced... and expanded upon because he did it the whole day....Through his modeling I guess. I did the actual projects.

2. Learned some activities to do with the kids... Concrete activites we could do, such as taking the kids to Stop and Shop, taking them to the apple orchard and the science activities you could do. (I learned those concrete activites because) He thought up the activites, wrote them down on the cards and gave them to us to do.

3. Make sure you know about things around that you can use as a teacher with kids - ask people. (I learned about that because) the International House was something I hadn't known about and I probably would have gone there before if I had known about it. ... actually reinforcing it with a trip to a new place where nobody had been before would show us that the resources in the community are good for kids to find out about and for teachers to bring kids to.... He modeled it definitely, he brought us there and took us around to different places.

4. The whole theme of the day was Magical Mystery Tour. I learned a good technique to keep kids' interest, by actually doing the thing that day, the tour.... My interest was in it all day.... I saw how it actually works...through hands on experience.

********** Go over the above thoughts with him from the last interview. Other thoughts about what you learned in those classes and how you learned them?

Question from last interview - Supervision of children - you have to have 3 children to one adult.

May I see your homework?

How has your awareness about or practice of modeling changed due to my observing and interviewing you?

How important do you think modeling is in a teacher education methodology class to help students learn about subject matter and about teaching?

Any final thought you have, questions you thought I would ask?

Address and phone #

APPENDIX B

dialogue "Cry the Beloved Country" Alan Paton Book

3LA/R Class
working notes 9/24/84
(1)

Globals

life humaneness
food
looking + talking to each other
eye contact
sitting on window sill
the listening - "I hear you"
will accept every answer as valid

The attending
being genuinely interested
paying attention to how responding - puzzled
doing things with quality

lesson plans
spelling
Religion plans

the putting together? what does this mean.

Here & now being direct - evaluative without being punitive

chairs in circles ... with arms
not enough for all ...

started to answer + interrogated herself + asked for others answers - one answer - then back + gave her answer.
thumbs right - head to read and answering (on tape)

working workshop
strengths
HH II
and elaborate
more context + what time

next step
growing room
IHH IHH

1st grade
listening list
next steps
then next steps

After own diagnosis
60 second round
yes?
you said something key - elaborate on
yes. yes
OK ..
It is good to confirm
of .....

your point was taken
what an important point!
agreed to this book - smiles

to all - no problems on lesson plans?
Dilemma, but solved.

book of the day - hegemony
award - a warning for you
keeps asking ?s - pushes them

mechanical skills,
this kind abbstantive skill
could have said - don't you
remember about substantive.

7. Differing with people but respecting their perspective

3. I am a learner taking next steps enthusiasm for learning

1. Self-evaluation

10. Putting principles into action

11. Taking criticism well

12. A natural way of behaving

to consistent out or out? OK.
list is terrible, but process is what is important
story about dilemma
time not good about plays.-
on tape- ? about timing - 1st
confusion about MARS comm
lack of. L.C. suffering

nodg - 's comments (on tape)
you might think
where
eye contact

"It is such a hard word" - Dilemma with heart

ate lunch, drank drink

began 9:05

(3)

Specifics - most are unscheduled + directed

1. reading aloud

Gary read - "Thank you" (build on strengths)

2. non-prewarned groupings

pick a partner to analyze ~~together~~ go back to partner

3. self-selection SSR/self-selected centers homework

12:36 - the writing workshop use of birthdays

Gary picked own book to read about
bring in text of own choice
- pick out our writing to read
- pick out next step to make into lesson plan.

4. feedback, interaction

About inventive spelling ? what questions, comments ?
~~check~~ get back work on Friday rather than Mon
3 sets of comments"

5. attention to substantive skills

writes list of strengths in writing on board.

all answers to next steps are mechanics - she suggests expressive next step - they give same answers

explanation of punctuations always asks for

1 mechanical + 1 expressive next step.

6. conclusion of curriculum that was some connection to children

lesson plans came directly from children's writing.

7. use of many materials

used overhead projector
books for diagnosis set up to practice with
~~work~~ read books when done with diagnosis

Specifics continued —

8. many modes of learning
   Lect / disc
   L Centers
   Slides / disc
   SSR / SSW
   Conferences 3 each

check + Julie
12:37 - [redacted] done with conf.
12:42 - [redacted] conf. L.A.
12:44 - 9 L.C. 2 conf.

Check's [redacted]'s LA curriculum

Hall used during lunch

Overhead projector for writing workshop. Explore side room re next step. Pairs + diagnosis did happen

9. individualized attention

[redacted] conf. after class since She signed up (hug)

10. Self-direction

began after break on own

Jeanine 2 groups began at 10:25 [redacted] reported in on Book Club

use this/an writing + next step or one of your own. [redacted]

decides about what to use in diagnosis + lesson plan.

Principles (areas)

1. Shared decision making

Julie to [redacted] - will get to 'do' in a minute

2. active participation in own learning

3. using literature as a base for a reading program

building on strengths

when brought them back - what did you like about ? ... seen plan

Agenda 9/24 actual time 14 students by 9:10

9 Rituals 9:05

9:30 Workshop in Writing 9:15
- Expression
- Mechanics
- Spelling
Some Strategies . . . .

11:15 Speaking / listening
The L.A. Curriculum
How it fits in

12 Lunch, Conferences, Learning Center

1 S.S.R / S.S.W

1:15 Workshop in Lesson Plans
Fears???

2:30 Reflections
Looking Ahead

2:40 - back together

2:52 - statements / reflecting on today. Hot + sweeps.
2 people, Then V.A.

put break in at 10:05

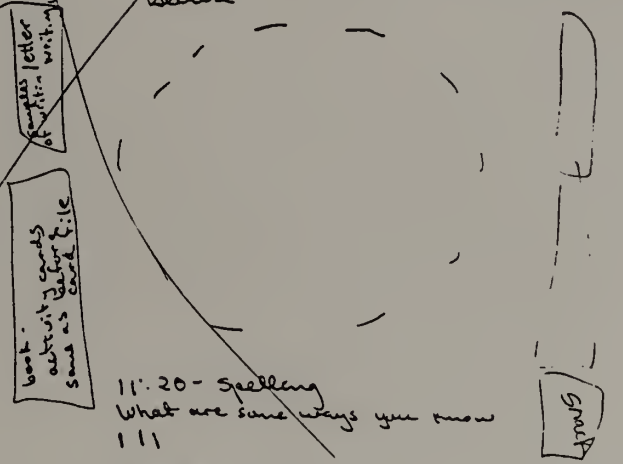
10:20 - groups start forming on own

10:28 - V.A. - are you finished

V.A. - goes to some groups - others gone.
visit.

10:55 - - all together in circle.
what did you do when finished.

11:20 - still on writing - behind because



11:20 - Spelling
What are some ways you know
111

That's one way.
That's a thought

11:36 - LA curriculum
Circle

12:0

1:26 - Lesson plan workshop

off 1:35 in pairs to work.

back: 1:50 1:55 in group

· One More River to Cross

quality — word of the day hegemony. (political power + domination

built on strengths - looked at child's strengths 1st
reading
Gary's

Jeanine
to V.H. conference 1/17/84
You're comfortable: everyone — open funny
'You say what you mean.'
"I constantly watch what you do"

11:05
I am ... explains what she is doing by writing on board
Make sure you say somewhere that V.H. gets it shot - with her knowns.
What are her priorities which she models (not says)?

11:15 should be time, should be place
CHUCK maybe you must have ideas that you could add
"We have a discussion going right now"

★ Make copies of songbooks ★ One more river to cross.
add list of records
Don't let it to postpone conf. is you ask. V. Hill

Visitors came & she explained schedule

2:05 on tape - & we tell you what we are doing next + we do with children